# CDP-195/295/491

## SERVICE MANUAL

*US Model*
*CDP-195/491*
*Canadian Model*
*AEP Model*
*E Model*
*CDP-195/295*
*UK Model*
*CDP-491*
*Australian Model*
*CDP-295*

SONY
HIGH DENSITY LINEAR CONVERTER
COMPACT DISC PLAYER CDP-295

**Photo : CDP-295**

| | |
|---|---|
| Model Name Using Similar Mechanism | CDP-291/391 |
| CD Mechanism Type | CDM14-5BD1 |
| Optical Pick-Up Block Type | BU-5BD1 |

## SPECIFICATIONS

**Compact disc player**

| | |
|---|---|
| Frequency response | 2 Hz – 20 kHz ± 0.5 dB |
| Signal to noise ratio | More than 100 dB |
| Dynamic range | More than 97 dB |
| Harmonic distortion | Less than 0.005% |
| Channel separation | More than 95 dB |

**Outputs**

| | |
|---|---|
| LINE OUT (phono jacks) | Output level 2 V (at 50 kilohms)<br>Load impedance over 10 kilohms |
| PHONES (stereo phone jack) | Output level max. 10 mW<br>Load impedance 32 ohms |

**General**

| | CDP-195/295/491 |
|---|---|
| Power requirements | Model for Continental Europe<br>220 – 230 V AC, 50/60 Hz<br>Model for Canada<br>120 V AC, 60 Hz<br>Model for Australia<br>240 V AC, 50 Hz<br>Model for other countries<br>110, 120, 220 or 240 V AC, adjustable, 50/60 Hz |
| Power consumption | 12 W |
| Dimensions (approx., including projections) | 430 × 100 × 280 mm (w/h/d)<br>($17 \times 4 \times 11\,{}^{1}/_{8}$ inches) |
| Weight (approx.) | 3.5 kg (7 lbs 12 oz) |

**Supplied accessories**

| | | |
|---|---|---|
| Audio cord | | 1<br>(2 phono plugs – 2 phono plugs) |
| Remote commander | (CDP-295/491) | 1 |
| R6(size AA) batteries | (CDP-295/491) | 2 |
| AC plug adaptor (for some areas) | | 1 |

**Remote commander RM-D295** (CDP-295/491)

| | |
|---|---|
| Remote control system | Infrared control |
| Power requirements | 3 V DC with two R6 (size AA) batteries |
| Dimensions | Approx. 40 × 20 × 175 mm (w/h/d)<br>($1\,{}^{3}/_{4} \times {}^{13}/_{16} \times 7$ inches) |
| Weight | Approx. 95 g (4 oz)<br>Including batteries |

Design and specifications subject to change without notice.

**CLASS 1 LASER PRODUCT**
**LUOKAN 1 LASERLAITE**
**KLASS 1 LASERAPPARAT**

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the rear exterior.

MICROFILM

## COMPACT DISC PLAYER

SONY®

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈCES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs a laser. Therefore, be sure to follow carefully the instructions below when servicing.

**CAUTION**
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

**NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT**

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

1. Laser Diode Properties
   - Material: GaAlAs
   - Wavelength: 780nm
   - Emission Duration: continuous
   - Laser Output: max.44.6μW*

   * This output is the value measured at a distance of about 200mm from the objective lens surface on the Optical Pick-up Block.

2. During service, do not take the Optical Pick-up Block apart, and do not adjust the APC circuit. If there is a breakdown in the APC circuit (including laser diode), replace the entire Optical Pick-up Block (including APC borad).

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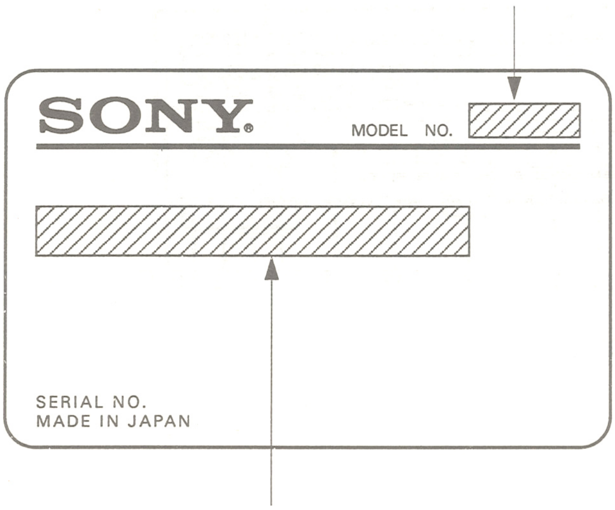
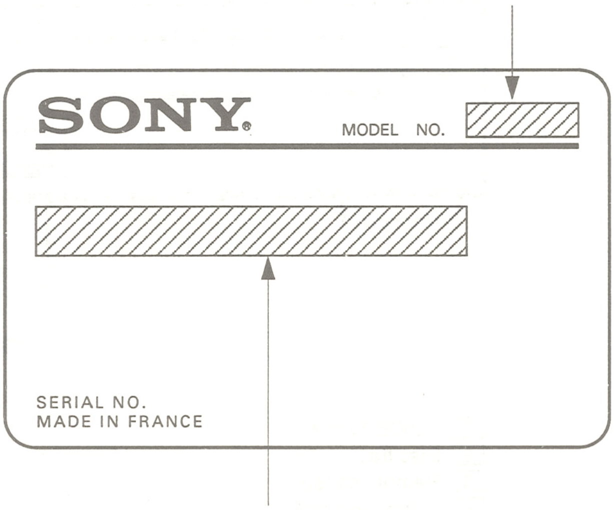
# MODEL IDENTIFICATION

## – SPECIFICATION LABEL –

CDP-195
CDP-295
CDP-491



CDP-195
CDP-295
CDP-491



| | |
|---|---|
| US, Canadian MODEL: | AC120, 60Hz 12W |
| AEP MODEL: | AC220-230V, 50/60Hz |
| Australian MODEL: | AC240V, 50/60Hz |
| E, Saudi Arabian MODEL: | AC110-120, 220-240V, 50/60Hz, 12W |

| | |
|---|---|
| AEP MODEL: | AC220-230V, 50/60Hz |
| UK MODEL: | AC240V, 50/60Hz |

# SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety check before releasing the set to the customer: Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

## LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig.A)

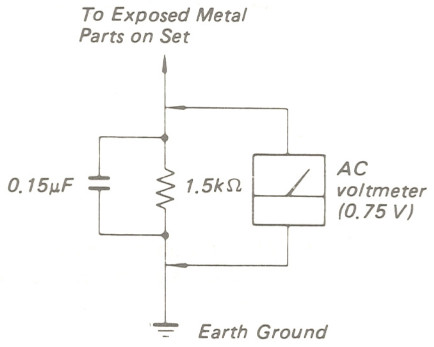


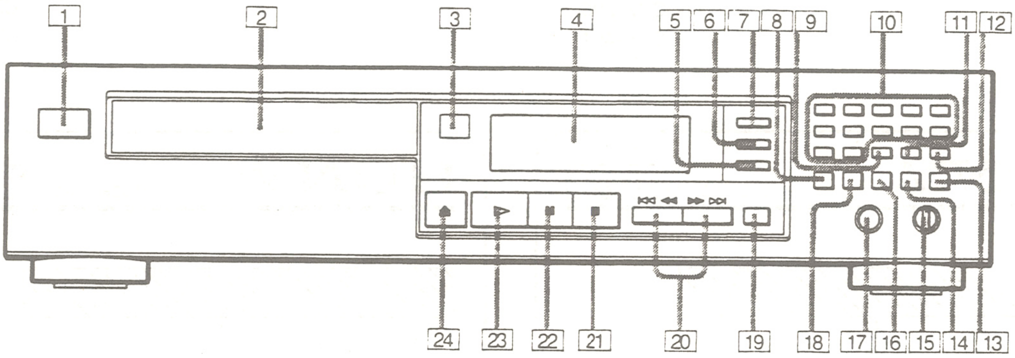
*Fig. A. Using an AC voltmeter to check AC leakage.*

# SECTION 1

# GENERAL

## LOCATION OF CONTROLS

This section is extracted from instruction manual.



**CDP-295**

1 POWER switch
2 Disc tray
3 Remote sensor
4 Display window
5 PROGRAM button
6 SHUFFLE button
7 CONTINUE button
8 TIME button
9 CHECK (program check) button
10 Numeric buttons
11 CLEAR (program clear) button
12 >12 (over 12) button
13 MUSIC SCAN button
14 PEAK SEARCH button
15 PHONE LEVEL control
16 FADER button
17 PHONES jack
18 REPEAT button
19 EDIT/TIME FADE button
20 ⏮ ◀◀/▶▶ ⏭ (AMS*/RMS**/manual search) buttons
21 ■ (stop) button
22 ❚❚ (pause) button
23 ▶ (play) button
24 ⏏ (open/close) button

---

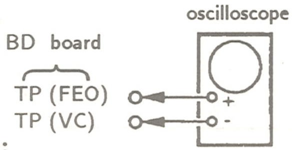
* AMS is the abbreviation of Automatic Music Sensor.
** RMS is the abbreviation of Random Music Sensor.

# SECTION 2
## ELECTRICAL BLOCK CHECKING

**Note :**

1. CD Block basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use the oscilloscope with more than 10MΩ impedance.
4. Clean an object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

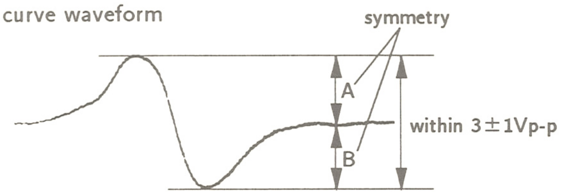
### S Curve Check



**Procedure :**

1. Connect oscilloscope to test point TP (FEO) on BD board.
2. Connect between test point TP (FES) and TP (VC) by lead wire.
3. Turned Power switch on and actuate the focus serch. (actuate the focus serch when disc table is moving in and out.)
4. Check the oscilloscope waveform (S curve) is symmetrical between A and B. And confirm peak to peak level within 3±1Vp-p.

S curve waveform

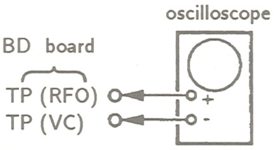


5. After check, remove the lead wire connected in step 2.

**Note :** • Try to mesure several times to make sure that the ratio of A : B or B : A is more than 10 : 7.

• Take sweep time as long as possible and light up the brightness to obtain best waveform.

### RF Level Check



**Procedure :**

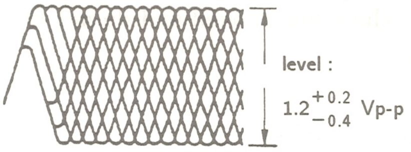
1. Connect oscilloscope to test point TP (RFO) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

**Note :**

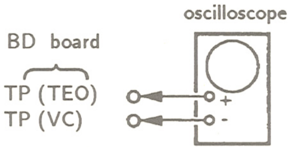
Clear RF signal waveform means that the shape "◇" can be clearly distinguished at the center of the waveform.

RF signal waveform

VOLT/DIV : 200mV
TIME/DIV : 500nS



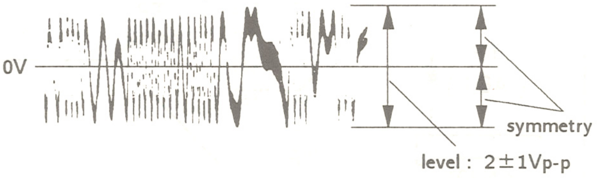
### E-F Balance Check



**Procedure :**

1. Connect test point TP (ADJ) to ground and TP (TES) to TP (VC) with lead wire.
2. Connect oscilloscope to test point TP (TEO) on BD board.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and playback.
5. Confirm that the osilloscope waveform is symmetrical on the top and bottom in relation to 0V, and check this level.

Traverse oscilloscope

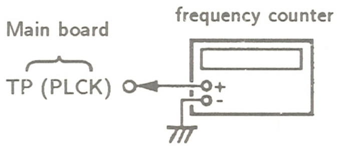


6. Remove the lead wire connected in step 1.

## RF PLL Free-run Frequency Check

**Procedure :**

1. Connect frequency counter to test point (PLCK) with lead wire.


Main board
frequency counter
TP (PLCK)
+
-

2. Turn Power switch on.
3. Confirm that reading on frequency counter is 4. 3218MHz.

## Focus/Tracking Gain

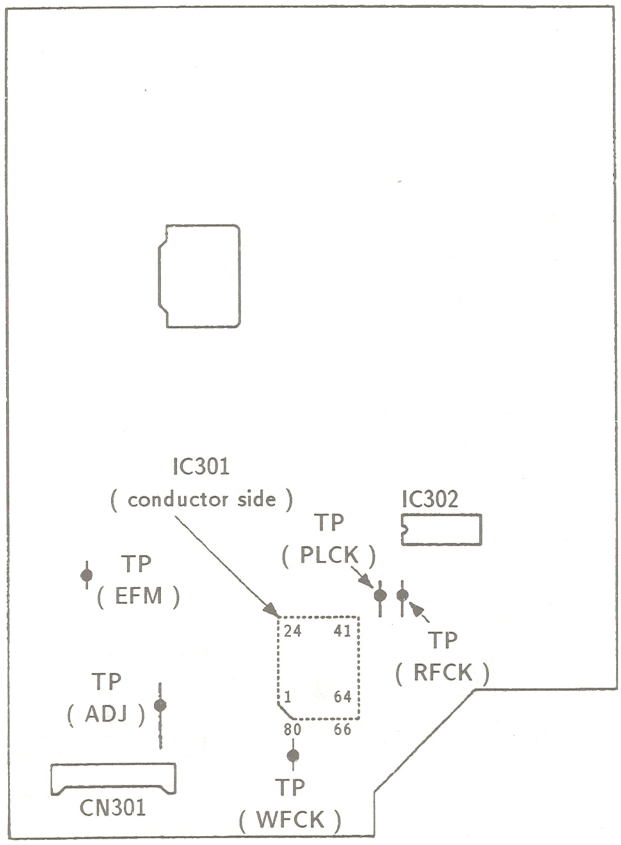
This gain has a margin, so even if it is slightly off. There is no problem.

Therefore, do not perform, this adjustment.

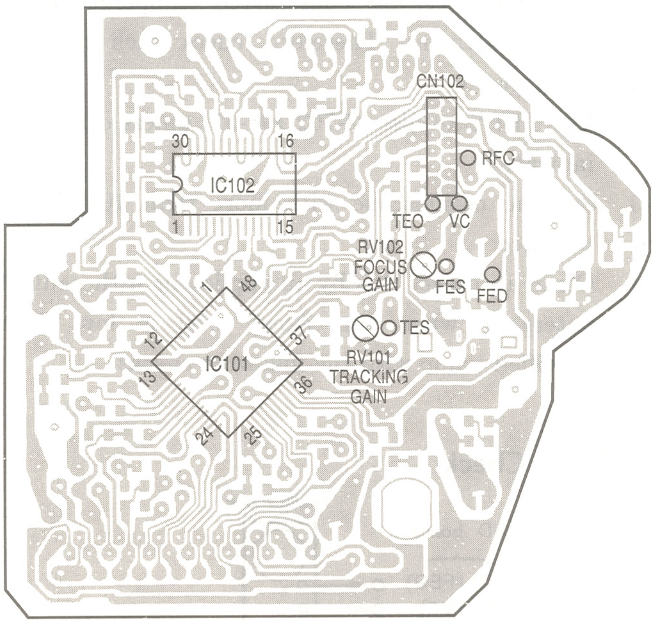
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

## Adjustment Location ;

【MAIN BOARD】 – Component Side –


IC301
( conductor side )
IC302
TP
( PLCK )
TP
( EFM )
24
41
1
64
80
66
TP
( RFCK )
TP
( ADJ )
CN301
TP
( WFCK )

[ BD BOARD ] – Component Side –


CN102
30
16
IC102
1
15
RFC
TEO
VC
RV102
FOCUS
GAIN
FES
FED
1
48
12
37
IC101
13
36
24
25
TES
RV101
TRACKING
GAIN

# SECTION 3

# DISASSEMBLY

Note :

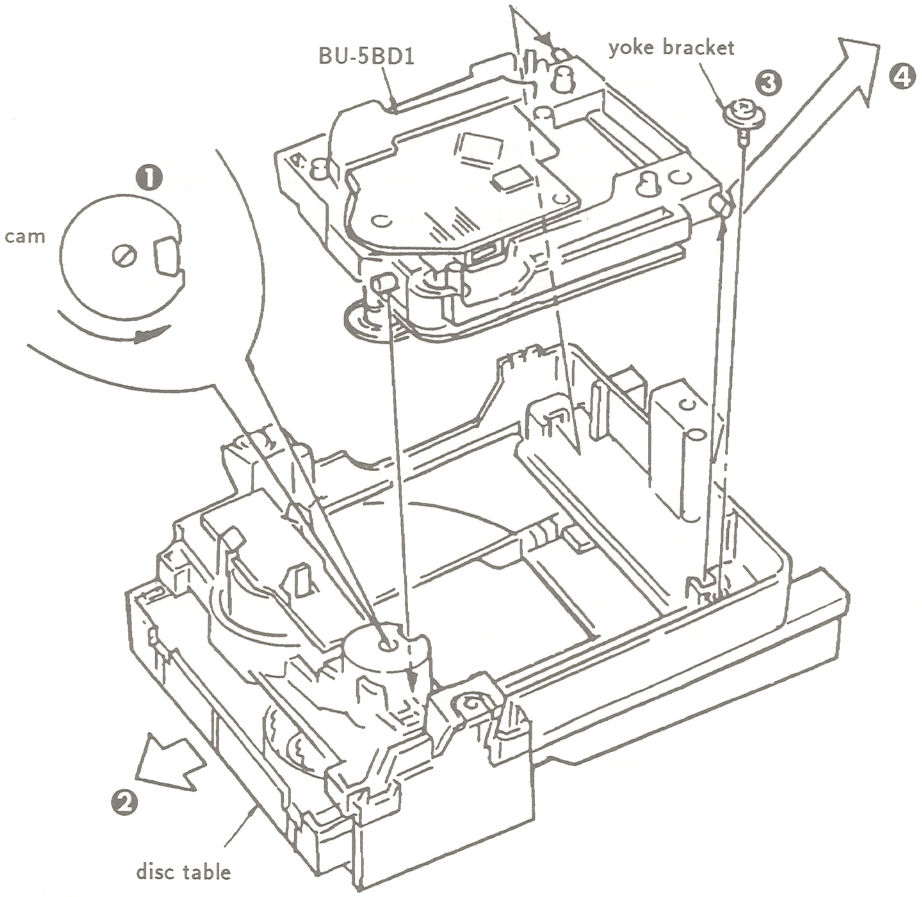
Follow the disassembly procedure in the nomerical order given.

❶ Turn the cam to the direction of arrow (Counter clock wise) by minus screw driver.

❷ Take off the disc table.

❸ Remove the yoke bracket.

❹ Remove the MD (BU-5BD1) to the direction of arrow.


BU-5BD1
yoke bracket
❸
❹
❶
cam
❷
disc table

# SECTION 4
# DIAGRAMS

## 4-1. PIN FUNCTION OF IC101 AND IC401

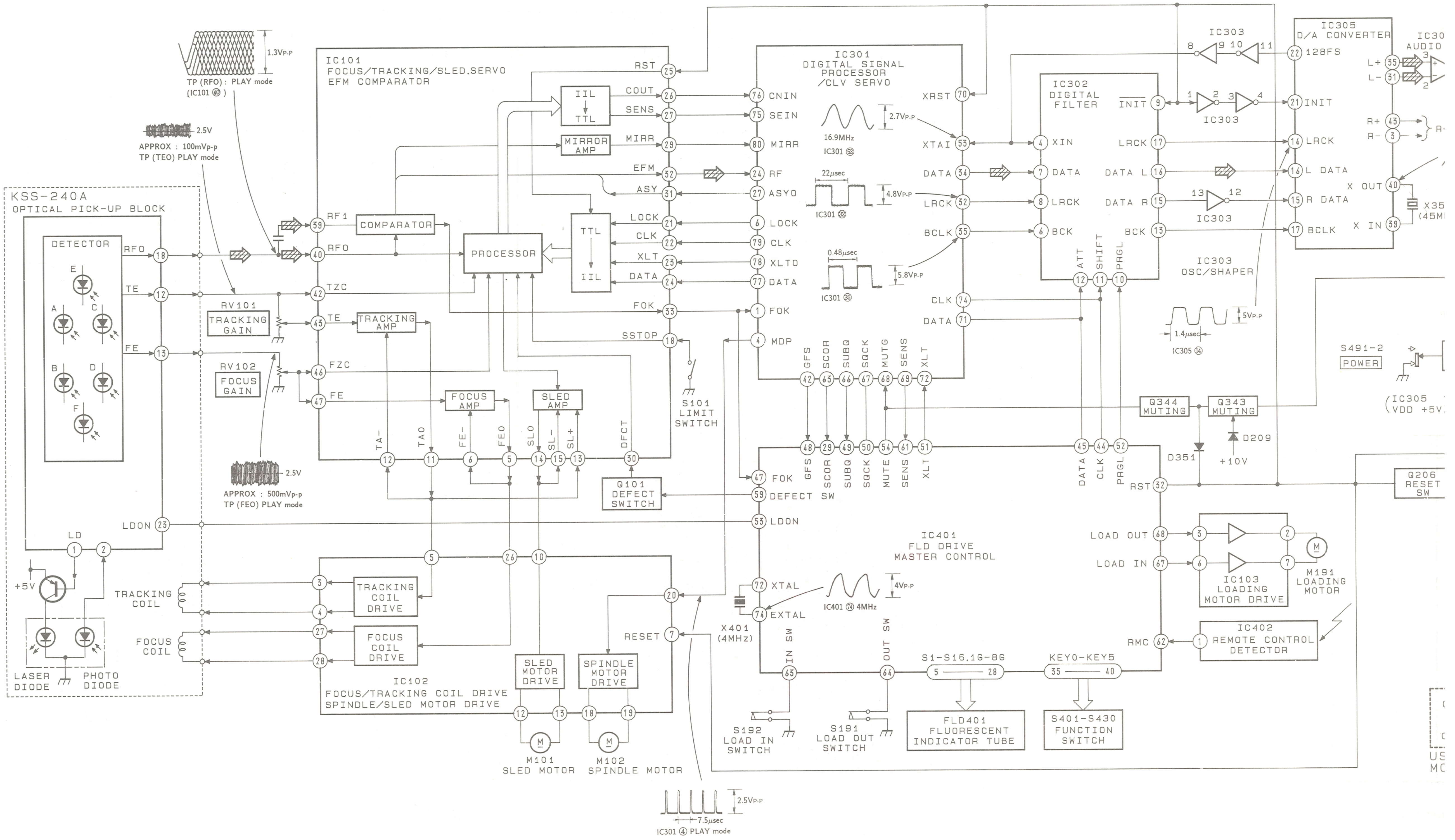
### ● IC101 (CXA1372Q) PIN FUNCTION

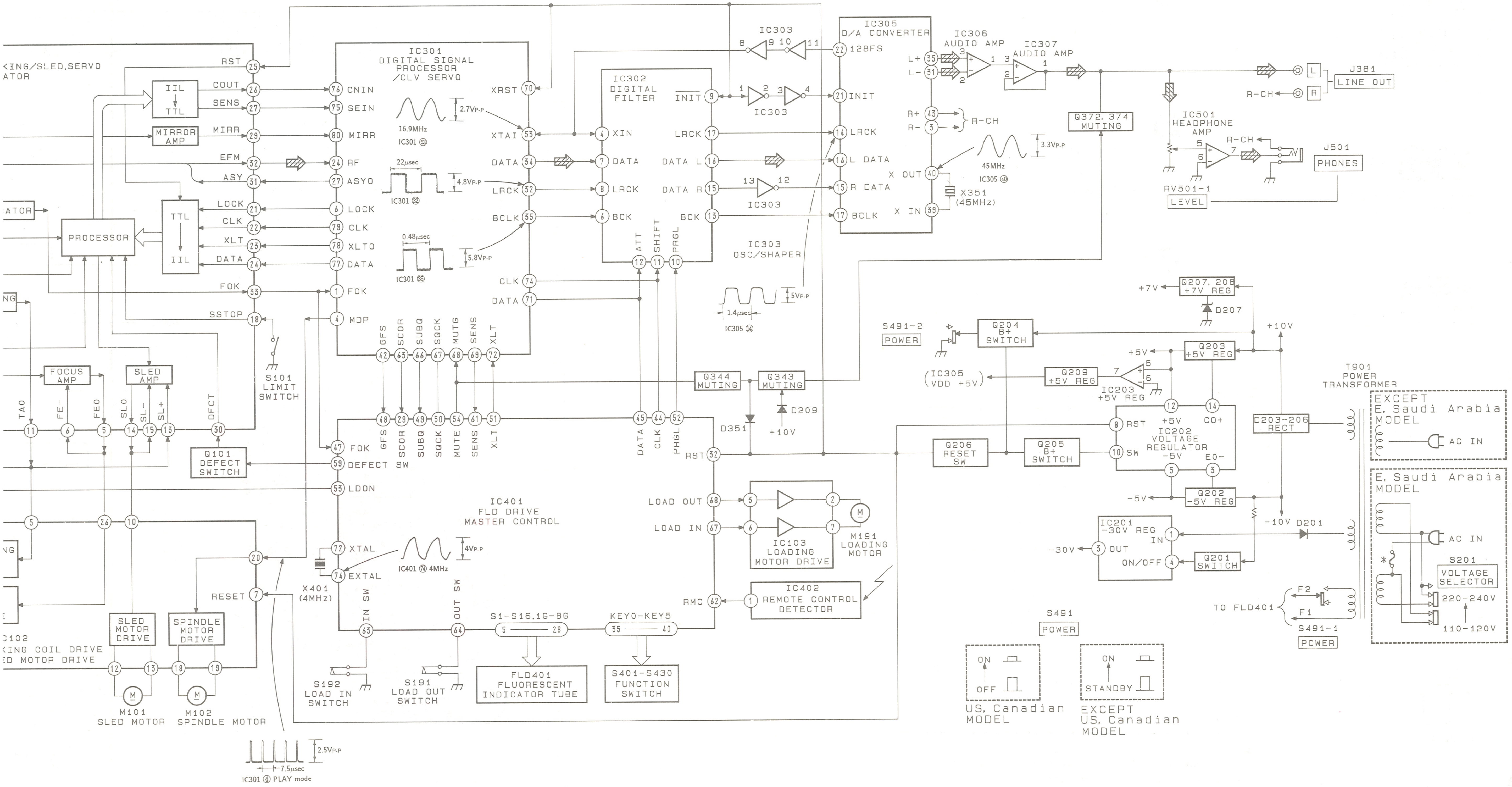
| Pin No. | Pin Name | I/O | Description |
|---|---|---|---|
| 1 | VC | — | GND when two (±) dual power supplies are in use, or the center voltage (2.5V) when a single power supply is in use. |
| 2 | FGD | I | Time constants for gain switching in normal mode/down mode and for focus gain are conncted between the FGD and FS3 pins. |
| 3 | FS3 | I | |
| 4 | FLB | I | The capacitor for low frequency boost in the focus servo loop is connected. |
| 5 | FEO | O | Focus drive output. |
| 6 | FE− | I | Inverted input to focus amplifier. |
| 7 | SRCH | I | Time constants to generate the focus search waveform are connected. |
| 8 | TGU | I | Time constants for gain switching in normal mode/up mode and for tracking gain are connected between TGU pin and TG2 pin. |
| 9 | TG2 | I | |
| 10 | AVCC | — | Analog power supply (5V when ± dual power supplies are in use, 5V when a single power supply is in use.) |
| 11 | TAO | O | Tracking drive output. |
| 12 | TA− | I | Inverted input to tracking amplifier. |
| 13 | SL+ | I | Non-inverted input to sled amplifier. |
| 14 | SLO | O | Sled drive output. |
| 15 | SL− | I | Non-inverted input to sled amplifier. |
| 16 | ESET | I | The 610kΩ phase compensator resistor is connected to this pin. |
| 17 | ISET | I | The current setting resistor is connected to this pin. |
| 18 | SSTOP | I | The limit switch is connected to this pin. |
| 19 | AVEE | — | Analog power supply (−5V when ± dual power supplies are in use, or GND when a single power supply is in use.) |
| 20 | DIRC | I | Direct control pin. |
| 21 | LOCK | I | Sled run-away prevention circuit operates when this signal is "L". |
| 22 | CLK | I | Serial data transfer clock input that is supplied from CPU (or DSP). |
| 23 | XLT | I | Latch input from CPU (or DSP). |
| 24 | DATA | I | Serial data input from CPU (or DSP). |
| 25 | XRST | I | System reset. "L" to reset. |
| 26 | C.OUT | O | Output to tracking counter. |
| 27 | SENS | O | SENS output. |
| 28 | DGND | — | Digital ground (GND). (GND when ± dual power supplies are in use. GND when a single power supply is in use.) |
| 29 | MIRR | O | Mirror output. |
| 30 | DFCT | O | Defect output. "H" when defective. |
| 31 | ASY | I | Auto-assymmetry control input. |
| 32 | EFM | O | EFM comparator output. |
| 33 | FOK | O | Focus OK. |
| 34 | CC2 | I | Defect-bottom-hold input (inout by capacitive coupling). |
| 35 | CC1 | O | Defect-bottom-hold output. |
| 36 | DVCC | — | Digital power supply. (+5V when ± dual power supplies in use. +5V when a single power supply is in use.) |
| 37 | CB | I | The defect-bottom-hold capacitor is connrcted to this pin. |
| 38 | CP | I | The mirror hold capacitor is connected to this pin. |
| 39 | RF1 | I | RF signal input (input by capacitive coupling). |
| 40 | RF0 | I | RF signal input (input by DC coupling). |
| 41 | DVEE | — | Digital power supply (−5V when ± dual power supplies are in use. GND when a single power supply is in use.) |
| 42 | TZC | I | Tracking zero-cross comparator input. |
| 43 | TE | I | Tracking error input. |
| 44 | TDFCT | I | The defect prevention hold capacitor is connected to this pin. |
| 45 | ATSC | I | Anti-shock input. |
| 46 | FZC | I | Focus zero-cross comparator input. |
| 47 | FE | I | Focus error input. |
| 48 | FDFCT | I | The defect prevention hold capaction is connected to this pin. |

## ● IC401 (CXP50112-097Q) PIN FUNCTION

| Pin No. | Pin Name | I /O | Description |
|---|---|---|---|
| 1 - 4 | — | — | Not used (open). |
| 5 - 20 | S1 -S16 | O | Segment output to FL tube. |
| 21 - 28 | 1G - 8G | O | Common output to FL tube. |
| 29 | SCOR | I | Subcode sync signal S0 + S1 detection input from IC301 (CXD2500AQ). |
| 30 | — | — | Not used (open). |
| 31 | +5V | — | +5V |
| 32 | $\overline{\text{RST}}$ | I | Reset input. |
| 33 | +5V | — | +5V |
| 34 | VDD | — | Power voltage terminal (+5V). |
| 35 - 40 | KEY0 - KEY5 | I | Key A/D input. |
| 41 | — | — | Not used (Ground). |
| 42 | TIMER SW | I | Auto play select input (Auto play "L"). |
| 43 | — | — | Not used (Ground). |
| 44 | CLK | O | Serial data transfer clock output to IC301 (CXD2500AQ). |
| 45 | DATA | O | Serial data output to IC301 (CXD2500AQ). |
| 46 | — | — | Not used (Ground). |
| 47 | FOK | I | Focus OK signal input from IC101 (CXA1372Q). |
| 48 | GFS | I | Frame sync signal clock status input from IC301 (CXD2500AQ). |
| 49 | SUBQ | I | Sub code (Q data) serial input from IC301 (CXD2500AQ). |
| 50 | SQCLK | O | Sub code (Q data) readout clock output to IC301 (CXD2500AQ). |
| 51 | XLT | O | Serial data latch output. |
| 52 | PRGL | O | Attenuate data latch clock output to IC302 (CXD2554P). |
| 53 | LDON | O | Laser diode ON/OFF select output of optical pick-up. |
| 54 | AMUT | O | Muting output for IC301 (CXD2500AQ) and Q344 (2SC3399).<br>Muting on by "H", Muting off by "L". |
| 55 - 58 | B0 - B3 | — | Not used (+5V) |
| 59 | DEFECT SW | O | Deffect circuit ON/OFF select output to IC101 (CXA1372Q). |
| 60 | — | — | Not used (open). |
| 61 | SENSE | I | SENS signal input from IC301 (CXD2500AQ). |
| 62 | RMC | I | Remote control signal input. |
| 63 | $\overline{\text{INSW}}$ | I | Input for loading out switch. |
| 64 | $\overline{\text{OUTSW}}$ | I | Output for loading in switch. |
| 65 | ADJ | I | Tset mode input. GFS check will not activate by "L". |
| 66 | AFADJ | I | Test mode input. All test operation will be activate by "L" mode when power on. |
| 67 | LODIN | O | Output for turn the loading motor to loading. |
| 68 | LODOUT | O | Output for turn the loading motor to un loading. |
| 69 | — | — | Not used (open). |
| 70 | — | — | Not used (open). |
| 71 | Vss | — | Ground. |
| 72 | XTAL | O | Clock output. |
| 73 | +5V | — | +5V |
| 74 | EXTAL | I | Clock input. (4MHz) |
| 75 | +5V | — | +5V |
| 76 | −30V | I | Power voltage −30V for built in FL tube controller. |
| 77 | — | — | Not used (open). |
| 78 | — | — | Not used (open). |
| 79 | — | — | Not used (open). |
| 80 | — | — | Not used (open). |

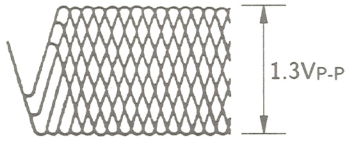
## 4-2. BLOCK DIAGRAM


KSS-240A
OPTICAL PICK-UP BLOCK
DETECTOR
E
A
C
B
D
F
RFO 18
TE 12
FE 13
LDON 23
LD
+5V
LASER DIODE
PHOTO DIODE
1.3Vp-p
TP (RFO) : PLAY mode (IC101 40)
2.5V
APPROX : 100mVp-p TP (TEO) PLAY mode
2.5V
APPROX : 500mVp-p TP (FEO) PLAY mode
RV101 TRACKING GAIN
RV102 FOCUS GAIN
IC101 FOCUS/TRACKING/SLED.SERVO EFM COMPARATOR
RF1 39
RFO 40
TZC 42
TE 43
FZC 46
FE 47
COMPARATOR
PROCESSOR
TRACKING AMP
FOCUS AMP
SLED AMP
IIL → TTL
MIRROR AMP
TTL → IIL
RST 25
COUT 26
SENS 27
MIRR 29
EFM 32
ASY 31
LOCK 21
CLK 22
XLT 23
DATA 24
FOK 33
SSTOP 18
TA- 12
TAO 11
FE- 6
FEO 5
SLO 14
SL- 15
SL+ 13
DFCT 50
S101 LIMIT SWITCH
Q101 DEFECT SWITCH
TRACKING COIL
FOCUS COIL
TRACKING COIL DRIVE
FOCUS COIL DRIVE
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
IC102 FOCUS/TRACKING COIL DRIVE SPINDLE/SLED MOTOR DRIVE
RESET 7
M101 SLED MOTOR
M102 SPINDLE MOTOR
2.5Vp-p
7.5μsec
IC301 4 PLAY mode
IC301 DIGITAL SIGNAL PROCESSOR /CLV SERVO
76 CNIN
75 SEIN
80 MIRR
24 RF
27 ASYO
6 LOCK
79 CLK
78 XLTO
77 DATA
1 FOK
4 MDP
XRST 70
XTAI 53
DATA 54
LRCK 52
BCLK 55
CLK 74
DATA 71
GFS 42
SCOR 63
SUBQ 66
SQCK 67
MUTG 68
SENS 69
XLT 72
2.7Vp-p
16.9MHz IC301 53
22μsec
4.8Vp-p
IC301 52
0.48μsec
5.8Vp-p
IC301 55
IC302 DIGITAL FILTER
4 XIN
7 DATA
8 LRCK
6 BCK
INIT 9
LRCK 17
DATA L 16
DATA R 15
BCK 13
ATT 12
SHIFT 11
PRGL 10
IC303
IC303 OSC/SHAPER
5Vp-p
1.4μsec
IC305 14
IC305 D/A CONVERTER
22 128FS
21 INIT
14 LRCK
16 L DATA
15 R DATA
17 BCLK
L+ 35
L- 31
R+ 43
R- 3
X OUT 40
X IN 39
X35
(45M
IC30
AUDIO
S491-2 POWER
(IC305 VDD +5V
Q344 MUTING
Q343 MUTING
D209
D351
+10V
Q206 RESET SW
IC401 FLD DRIVE MASTER CONTROL
47 FOK
59 DEFECT SW
53 LDON
48 GFS
29 SCOR
49 SUBQ
50 SQCK
54 MUTE
61 SENS
51 XLT
45 DATA
44 CLK
52 PRGL
RST 32
72 XTAL
74 EXTAL
X401 (4MHz)
4Vp-p
IC401 74 4MHz
IN SW 65
OUT SW 64
S1-S16,1G-8G 5 — 28
KEY0-KEY5 35 — 40
S192 LOAD IN SWITCH
S191 LOAD OUT SWITCH
FLD401 FLUORESCENT INDICATOR TUBE
S401-S430 FUNCTION SWITCH
LOAD OUT 68
LOAD IN 67
IC103 LOADING MOTOR DRIVE
M191 LOADING MOTOR
RMC 62
IC402 REMOTE CONTROL DETECTOR
US
MC


KING/SLED,SERVO
ATOR
IIL
TTL
MIRROR AMP
PROCESSOR
RST
COUT
SENS
MIRR
EFM
ASY
LOCK
CLK
XLT
DATA
FOK
SSTOP
S101 LIMIT SWITCH
FOCUS AMP
SLED AMP
TAO
FE-
FEO
SLO
SL-
SL+
DFCT
Q101 DEFECT SWITCH
IC301 DIGITAL SIGNAL PROCESSOR /CLV SERVO
CNIN
SEIN
MIRR
RF
ASYO
LOCK
CLK
XLTO
DATA
FOK
MDP
XRST
XTAI
DATA
LRCK
BCLK
CLK
DATA
GFS
SCOR
SUBQ
SQCK
MUTG
SENS
XLT
16.9MHz
IC301 (53)
2.7VP-P
22μsec
4.8VP-P
IC301 (52)
0.48μsec
5.8VP-P
IC301 (55)
IC302 DIGITAL FILTER
XIN
DATA
LRCK
BCK
INIT
LRCK
DATA L
DATA R
BCK
ATT
SHIFT
PRGL
IC303
IC303 OSC/SHAPER
5VP-P
1.4μsec
IC305 (14)
IC305 D/A CONVERTER
128FS
INIT
LRCK
L DATA
R DATA
BCLK
L+
L-
R+
R-
R-CH
X OUT
X IN
X351 (45MHz)
45MHz
IC305 (40)
3.3VP-P
IC306 AUDIO AMP
IC307 AUDIO AMP
Q372, 374 MUTING
J381
LINE OUT
L
R
R-CH
IC501 HEADPHONE AMP
RV501-1 LEVEL
J501 PHONES
Q344 MUTING
Q343 MUTING
D351
D209
+10V
GFS
SCOR
SUBQ
SQCK
MUTE
SENS
XLT
DATA
CLK
PRGL
RST
FOK
DEFECT SW
LDON
IC401 FLD DRIVE MASTER CONTROL
LOAD OUT
LOAD IN
IC103 LOADING MOTOR DRIVE
M191 LOADING MOTOR
XTAL
EXTAL
X401 (4MHz)
4VP-P
IC401 (74) 4MHz
IN SW
OUT SW
S1-S16,1G-8G
KEY0-KEY5
RMC
IC402 REMOTE CONTROL DETECTOR
FLD401 FLUORESCENT INDICATOR TUBE
S401-S430 FUNCTION SWITCH
S192 LOAD IN SWITCH
S191 LOAD OUT SWITCH
RESET
SLED MOTOR DRIVE
SPINDLE MOTOR DRIVE
M101 SLED MOTOR
M102 SPINDLE MOTOR
IC102
KING COIL DRIVE
ED MOTOR DRIVE
2.5VP-P
7.5μsec
IC301 (4) PLAY mode
+7V
Q207, 208 +7V REG
D207
S491-2 POWER
Q204 B+ SWITCH
+10V
+5V
Q203 +5V REG
(IC305 VDD +5V)
Q209 +5V REG
IC203 +5V REG
IC202 VOLTAGE REGULATOR
RST
+5V
CO+
SW
-5V
EO-
Q206 RESET SW
Q205 B+ SWITCH
-5V
Q202 -5V REG
D203-206 RECT
T901 POWER TRANSFORMER
EXCEPT E. Saudi Arabia MODEL
AC IN
E. Saudi Arabia MODEL
AC IN
S201 VOLTAGE SELECTOR
220-240V
110-120V
-10V
D201
IC201 -30V REG
IN
OUT
ON/OFF
-30V
Q201 SWITCH
TO FLD401
F2
F1
S491-1 POWER
S491 POWER
ON
OFF
US, Canadian MODEL
ON
STANDBY
EXCEPT US, Canadian MODEL

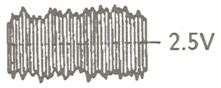
## 4-3. WAVEFORMS

❶



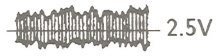
TP (RFO) : PLAY mode
(IC101 ㊵ )

❷



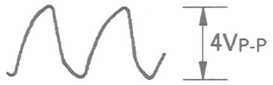
APPROX : 500mVp-p
TP (FEO) PLAY mode

❸



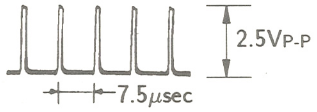
APPROX : 100mVp-p
TP (TEO) PLAY mode

❹



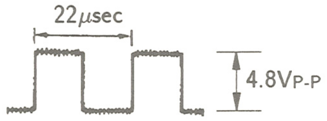
IC401 (74) 4MHz

❺



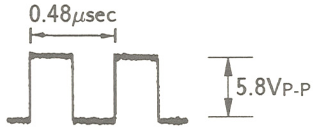
IC301 ④ PLAY mode

❻



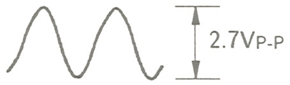
IC301 ㉜

❼



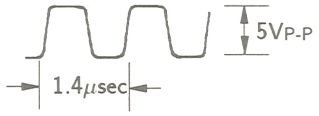
IC301 ㉟

❽



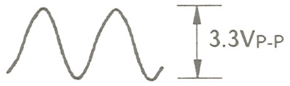
16.9MHz
IC301 (53)

❾



IC305 ⑭

❿



45MHz
IC305 ㊵

### • SEMICONDUCTOR LOCATION

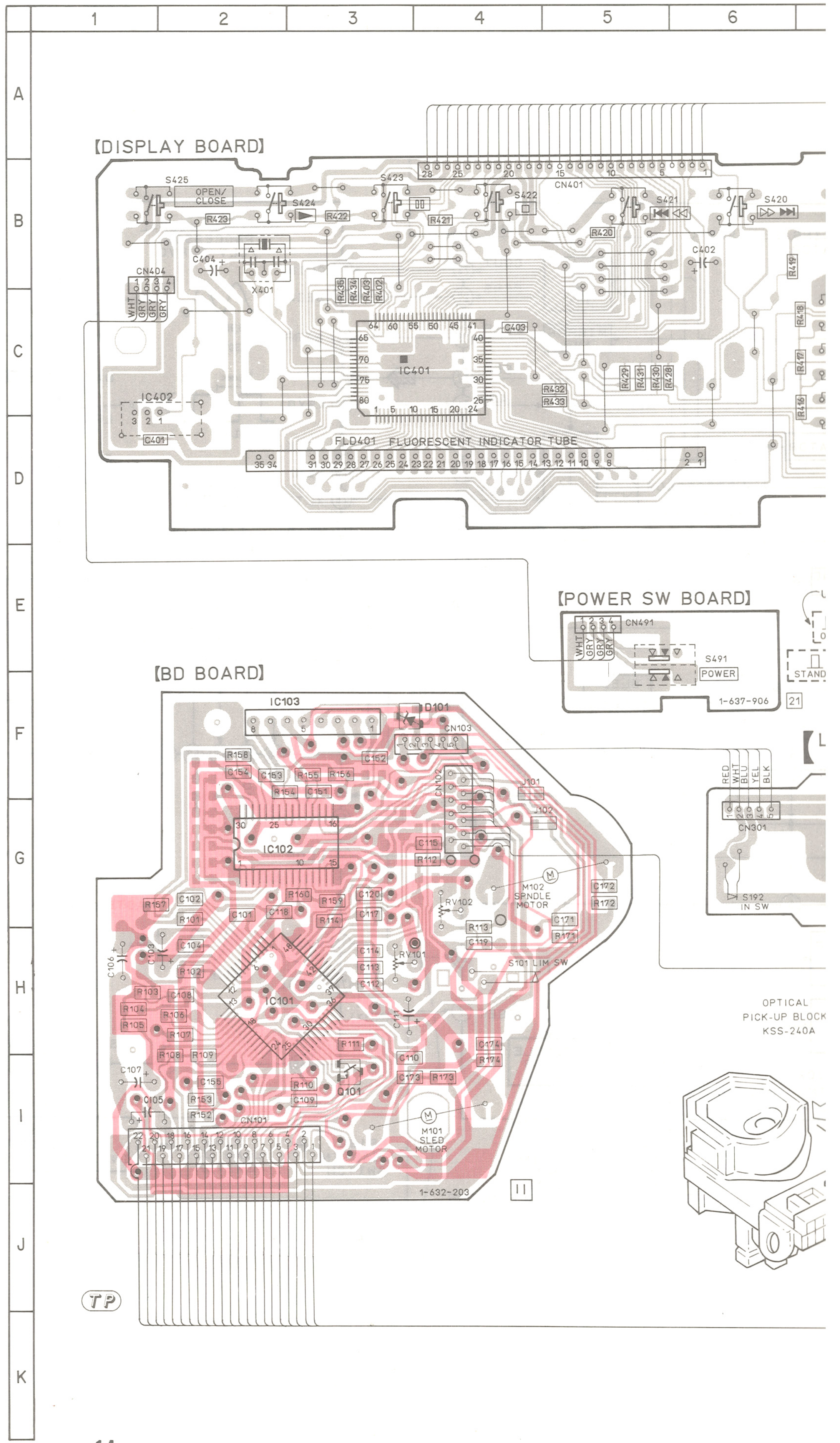
| Ref. No. | LOCATION No. | Ref. No. | LOCATION No. |
|---|---|---|---|
| D101 | F-3 | IC306 | D-14 |
| D201 | E-18 | IC307 | C-14 |
| D202 | I-18 | IC401 | C-4 |
| D203 | E-17 | IC402 | C-1 |
| D204 | E-17 | IC501 | G-10 |
| D205 | E-17 | | |
| D206 | E-17 | Q101 | I-3 |
| D207 | G-18 | Q201 | F-18 |
| D208 | F-16 | Q202 | G-17 |
| D209 | F-16 | Q203 | F-17 |
| D341 | F-15 | Q204 | H-17 |
| D351 | G-13 | Q205 | H-17 |
| | | Q206 | H-17 |
| IC101 | H-2 | Q207 | G-18 |
| IC102 | G-2 | Q208 | G-18 |
| IC103 | F-3 | Q209 | F-15 |
| IC201 | F-18 | Q343 | D-13 |
| IC202 | G-17 | Q344 | G-12 |
| IC203 | G-15 | Q371 | B-14 |
| IC301 | H-15 | Q372 | C-15 |
| IC302 | G-14 | Q373 | B-14 |
| IC303 | G-13 | Q374 | C-15 |
| IC305 | E-14 | | |

**Note:**

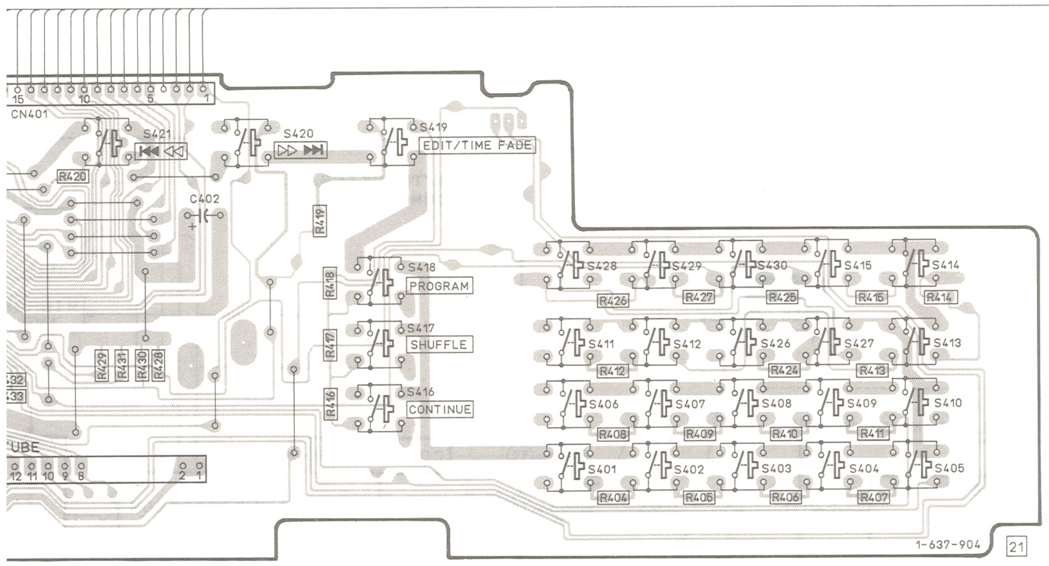
- o——— : indicated a lead wire mounted on the component side.
- ■ : parts mounted on the conductor side.
- ● : Through hole.
- ▨ : Pattern from the side which enables seeing.
- 🟥 : Pattern of the rear side.

"Semiconductor Lead Layouts" is inserted on P21.

## 4-4. PRINTED WIRING BOARDS

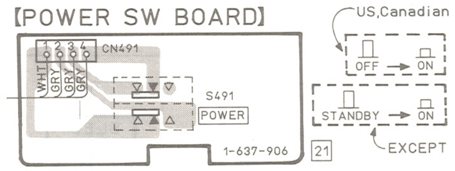

1
2
3
4
5
6
A
B
C
D
E
F
G
H
I
J
K
[DISPLAY BOARD]
S425
OPEN/CLOSE
S424
S423
S422
S421
S420
CN401
CN404
WHT
GRY
C404
X401
C402
IC401
IC402
C409
FLD401 FLUORESCENT INDICATOR TUBE
[POWER SW BOARD]
CN491
S491
POWER
STAND
1-637-906
[BD BOARD]
IC103
D101
CN103
CN102
IC102
IC101
J101
J102
RV102
RV101
M102
SPINDLE
MOTOR
S101 LIM SW
Q101
CN101
M101
SLED
MOTOR
1-632-203
TP
RED
WHT
BLU
YEL
BLK
CN301
S192
IN SW
OPTICAL
PICK-UP BLOCK
KSS-240A

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22


CN401
S421
S420
S419
EDIT/TIME FADE
C402
S418
PROGRAM
S417
SHUFFLE
S416
CONTINUE
S428 S429 S430 S415 S414
S411 S412 S426 S427 S413
S406 S407 S408 S409 S410
S401 S402 S403 S404 S405
TUBE
1-637-904
21

| | | | | |
|---|---|---|---|---|
| S428<br>TIME | S429<br>REPEAT | S430<br>FADER | S415<br>PEAK SEARCH | S414<br>MUSIC SCAN |
| S411<br>11 | S412<br>12 | S426<br>CHECK | S427<br>CLEAR | S413<br>>12 |
| S406<br>6 | S407<br>7 | S408<br>8 | S409<br>9 | S410<br>10 |
| S401<br>1 | S402<br>2 | S403<br>3 | S404<br>4 | S405<br>5 |

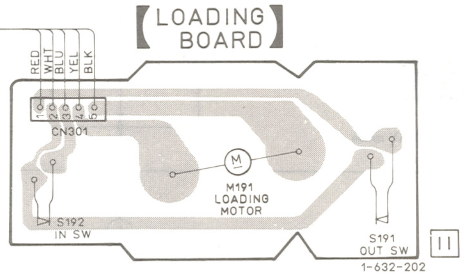
【POWER SW BOARD】

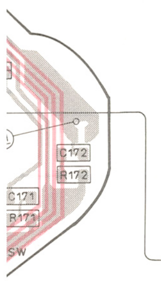

CN491
WHT
GRY
GRY
S491
POWER
1-637-906
21
OFF → ON
STANDBY → ON

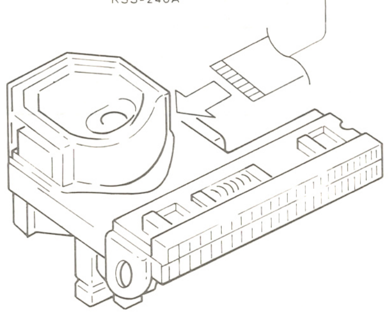
US,Canadian MODEL

EXCEPT US,Canadian MODEL

【LOADING BOARD】

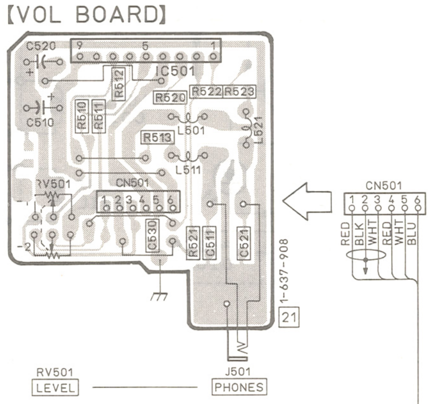

RED
WHT
BLU
YEL
BLK
CN301
M191
LOADING
MOTOR
S192
IN SW
S191
OUT SW
1-632-202
11


C172
R172
C171
R171
SW



OPTICAL PICK-UP BLOCK KSS-240A

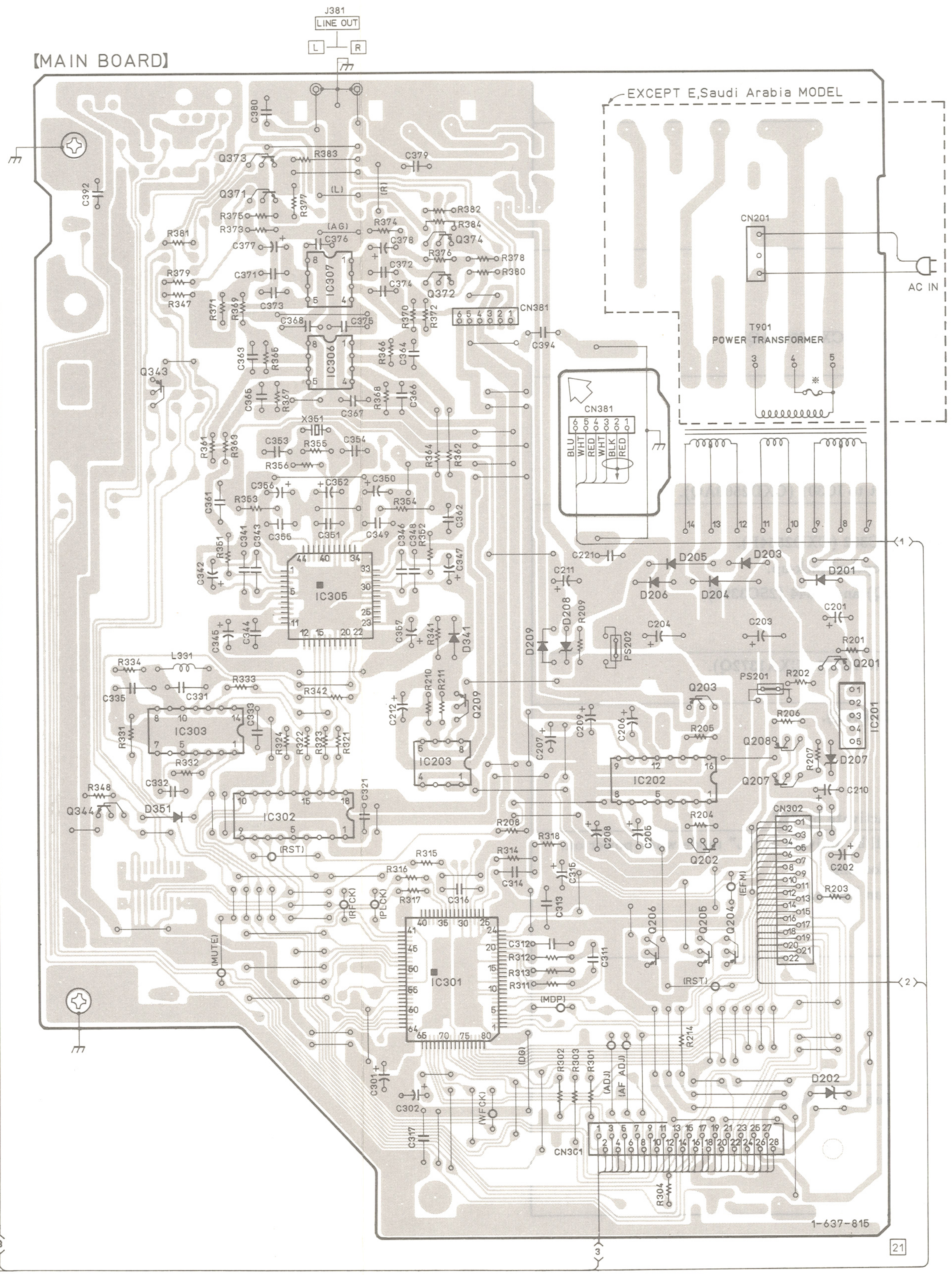
【VOL BOARD】

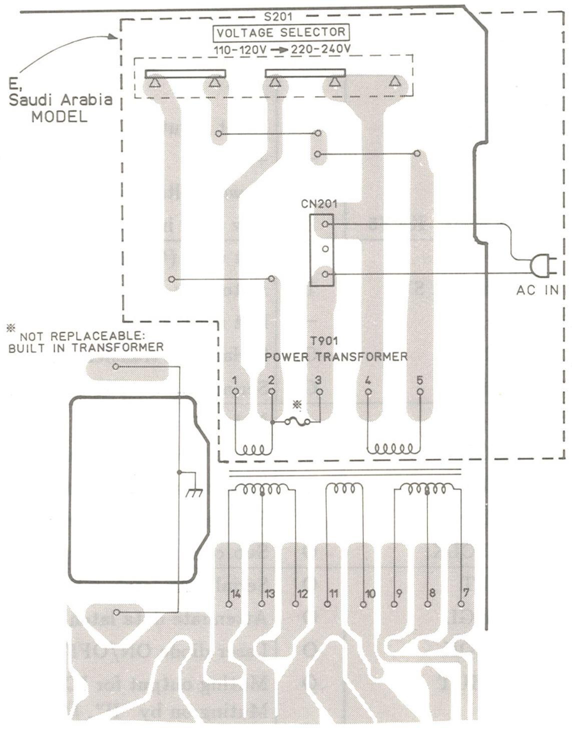

C520
IC501
R520
R522
R523
C510
R510
R511
R512
R513
L501
L511
L521
RV501
CN501
C530
C511
C521
1-637-908
21
CN501
RED
BLK
WHT
RED
WHT
BLU

RV501 LEVEL

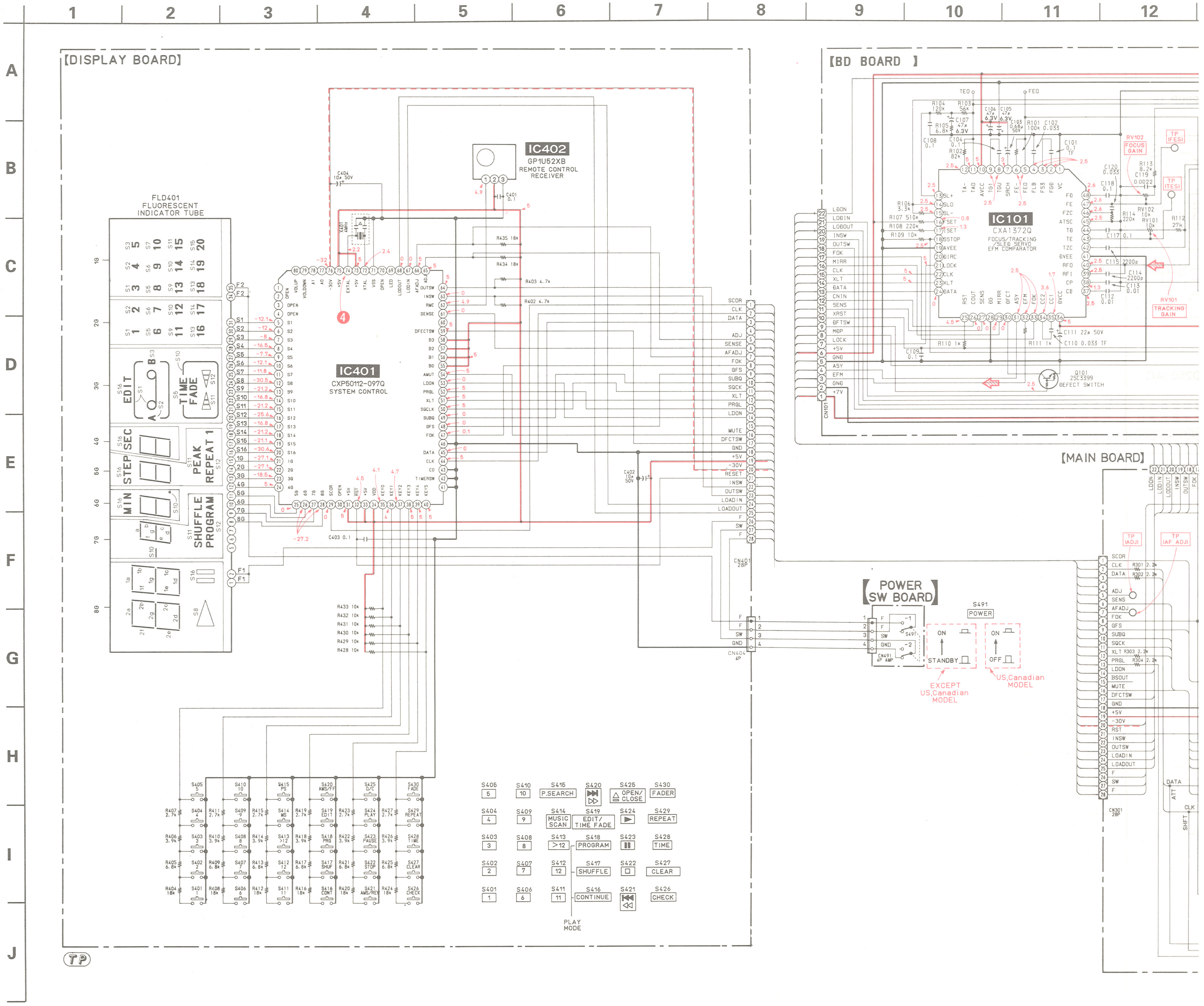
J501 PHONES

【MAIN BOARD】


J381
LINE OUT
L
R
EXCEPT E,Saudi Arabia MODEL
CN201
AC IN
T901
POWER TRANSFORMER
CN381
BLU
WHT
RED
WHT
BLK
RED
IC307
IC306
IC305
IC303
IC302
IC301
IC203
IC202
IC201
X351
D205
D203
D206
D204
D201
D207
D202
D208
D209
D341
D351
PS201
PS202
Q373
Q371
Q374
Q372
Q343
Q344
Q203
Q208
Q207
Q202
Q206
Q205
Q204
Q209
CN302
CN301
(MUTE)
(RST)
(PLCK)
(MDP)
(EFM)
(DB)
(WFCK)
(AJ)
(AF ADJ)
1-637-815
21


S201
VOLTAGE SELECTOR
110-120V → 220-240V
E,
Saudi Arabia
MODEL
CN201
AC IN
T901
POWER TRANSFORMER
* NOT REPLACEABLE:
BUILT IN TRANSFORMER

## 4-5. SCHEMATIC DIAGRAM



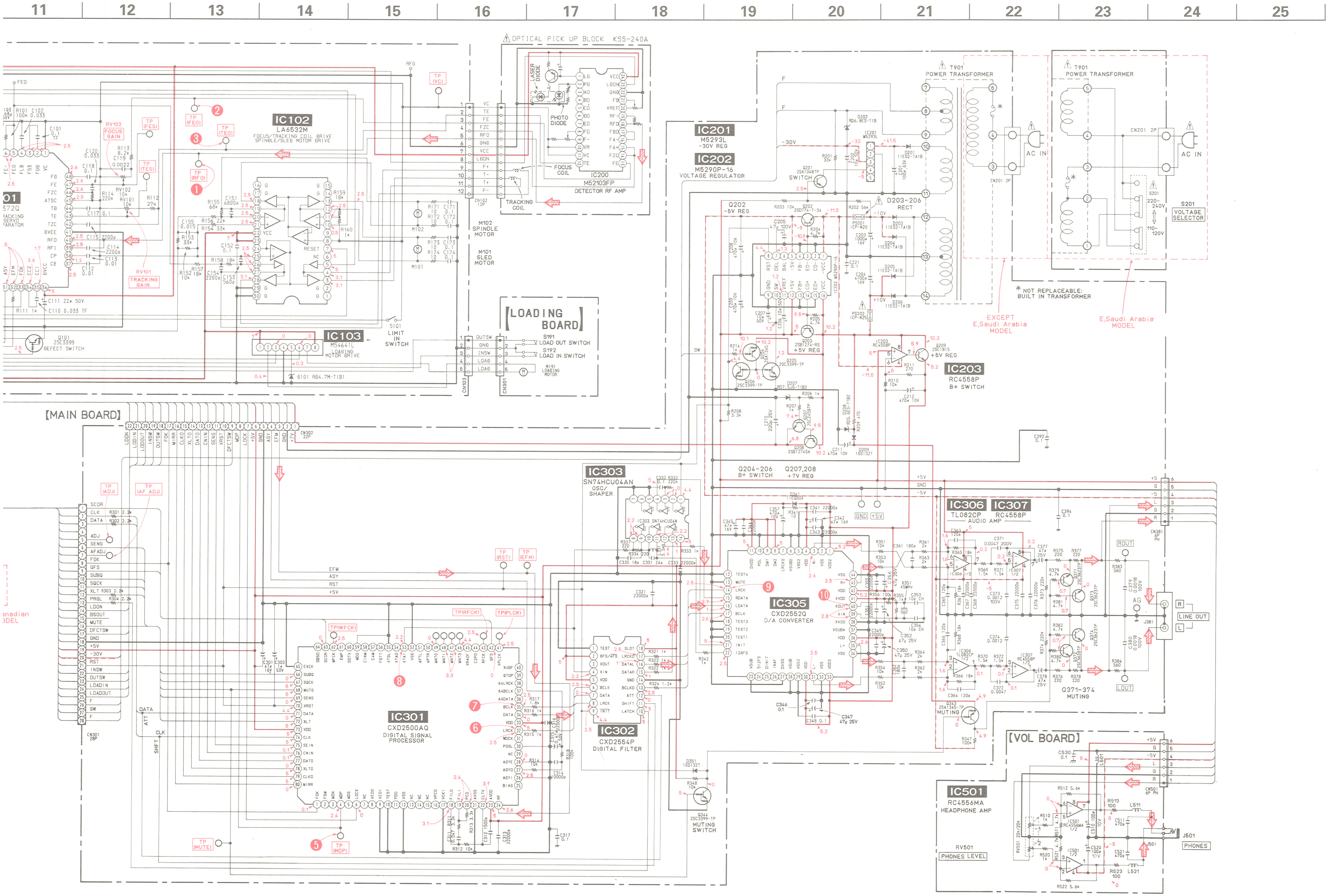
1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
[DISPLAY BOARD]
FLD401 FLUORESCENT INDICATOR TUBE
EDIT
TIME FADE
STEP
SEC
MIN
PEAK REPEAT 1
SHUFFLE PROGRAM
IC402
GP1U52XB
REMOTE CONTROL RECEIVER
IC401
CXP50112-097Q
SYSTEM CONTROL
X401 4MHz
C404 10μ 50V
C401 0.1
C402 10μ 50V
C403 0.1
R435 18k
R434 18k
R403 4.7k
R402 4.7k
R433 10k
R432 10k
R431 10k
R430 10k
R429 10k
R428 10k
CN401 28P
CN404 4P
S405 5
S410 10
S415 P.SEARCH
S420
S425 OPEN/CLOSE
S430 FADER
S404 4
S409 9
S414 MUSIC SCAN
S419 EDIT/TIME FADE
S424
S429 REPEAT
S403 3
S408 8
S413 >12
S418 PROGRAM
S423
S428 TIME
S402 2
S407 7
S412 12
S417 SHUFFLE
S422
S427 CLEAR
S401 1
S406 6
S411 11
S416 CONTINUE
S421
S426 CHECK
PLAY MODE
[BD BOARD]
IC101
CXA1372Q
FOCUS/TRACKING/SLED SERVO EFM COMPARATOR
Q101 2SC3399 DEFECT SWITCH
RV102 FOCUS GAIN
RV101 TRACKING GAIN
TP (FES)
TP (TES)
CN101
[MAIN BOARD]
TP (ADJ)
TP (AF ADJ)
CN301 28P
POWER SW BOARD
S491 POWER
CN491 4P AMP
ON
STANDBY
OFF
EXCEPT US,Canadian MODEL
US,Canadian MODEL
TP

Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, 1/4W or less unless otherwise noted.
- △ : internal component.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

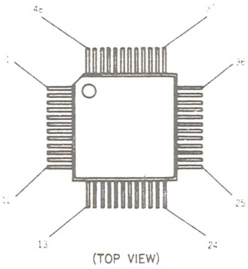
- ━━━ : B + Line.
- ■ ■ ■ ■ : B – Line.
- ☐ : adjustment for repair.
- Voltages are DC between measurement points and ground under no-signal (STOP) conditions.
- no make : PB mode
- Voltages are taken with a VOM (input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path
  ⇨ : CD



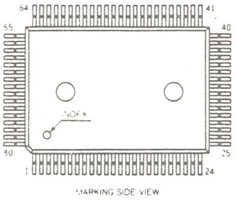
11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
OPTICAL PICK UP BLOCK KSS-240A
LASER DIODE
PHOTO DIODE
FOCUS COIL
TRACKING COIL
IC200 M52103FP DETECTOR RF AMP
IC102 LA6532M FOCUS/TRACKING COIL DRIVE SPINDLE/SLED MOTOR DRIVE
M102 SPINDLE MOTOR
M101 SLED MOTOR
RV102 FOCUS GAIN
RV101 TRACKING GAIN
Q101 2SC3399 DEFECT SWITCH
IC103 M54641L LOADING MOTOR DRIVE
S101 LIMIT IN SWITCH
D101 RD6.7M-T1B1
LOADING BOARD
S191 LOAD OUT SWITCH
S192 LOAD IN SWITCH
M191 LOADING MOTOR
CN103
CN301
MAIN BOARD
CN302 22P
CN301 28P
IC201 M5293L -30V REG
IC202 M5290P-16 VOLTAGE REGULATOR
Q201 2SA1048TP SWITCH
Q202 -5V REG
D203-206 RECT
Q203 2SB1274-RS +5V REG
Q205 2SC3399-TP
Q206 2SC3399-TP
Q204-206 B+ SWITCH
Q207,208 +7V REG
T901 POWER TRANSFORMER
AC IN
CN201 2P
S201 VOLTAGE SELECTOR
220-240V
110-120V
* NOT REPLACEABLE: BUILT IN TRANSFORMER
EXCEPT E,Saudi Arabia MODEL
E,Saudi Arabia MODEL
IC203 RC4558P B+ SWITCH
Q209 2SC1815 +5V REG
IC303 SN74HCU04AN OSC/SHAPER
IC301 CXD2500AQ DIGITAL SIGNAL PROCESSOR
IC302 CXD2554P DIGITAL FILTER
IC305 CXD2552Q D/A CONVERTER
IC306 TL082CP AUDIO AMP
IC307 RC4558P
Q371-374 MUTING
Q343 2SA1345-TP MUTING
Q344 2SC3399-TP MUTING SWITCH
CN381 6P PH
ROUT
LOUT
LINE OUT
J381
VOL BOARD
IC501 RC4556MA HEADPHONE AMP
RV501 PHONES LEVEL
J501 PHONES
CN501 6P PH
TP (FEO)
TP (FEI)
TP (TEO)
TP (RFO)
TP (VC)
TP (FES)
TP (TES)
TP (ADJ)
TP (AF ADJ)
TP (RST)
TP (EFM)
TP (WFCK)
TP (RFCK)
TP (PLCK)
TP (MUTE)
TP (MDP)

## 4-6. SEMICONDUCTOR LEAD LAYOUTS

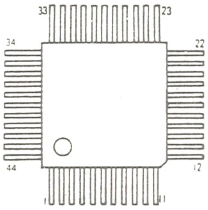
**CXA1372Q**


48
37
1
36
12
25
13
24
(TOP VIEW)

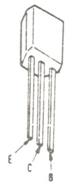
**CXD2500AQ**
**CXP50112-097Q**


64
41
55
40
INDEX
80
25
1
24
MARKING SIDE VIEW

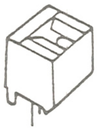
**CXD2552Q**


33
23
34
22
44
12
1
11

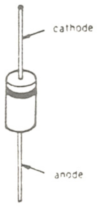
**DTA144ES**
**DTC144ES**
**2SC2458-YGR**
**2SC3623A-LK**



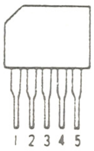
**GP1U52XB**



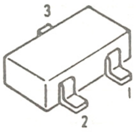
**IN4148M**


cathode
anode

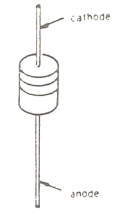
**M5293L**



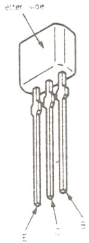
**RD4.7M-B1**



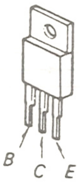
**RD5.6ES-B2**
**RD6.8ES-B1**
**RD7.5JS-B2**
**ISS202-1**
**11ES2**
**11EQS04**


cathode
anode

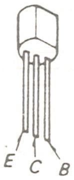
**2SA1175-HFE**


letter side
E
C
B

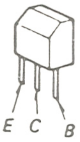
**2SB1094-L**
**2SB1274SA-RS**



**2SC1815-Y**

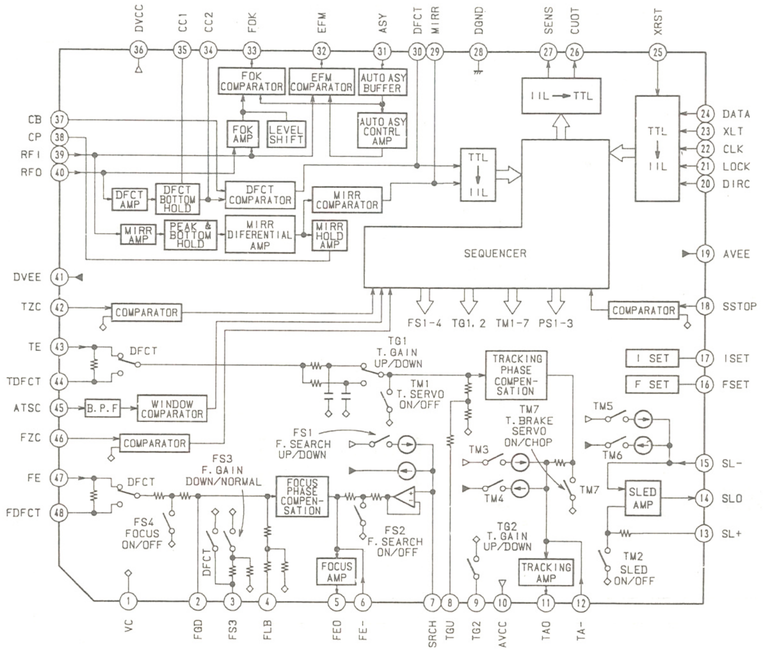


**2SD774-34**

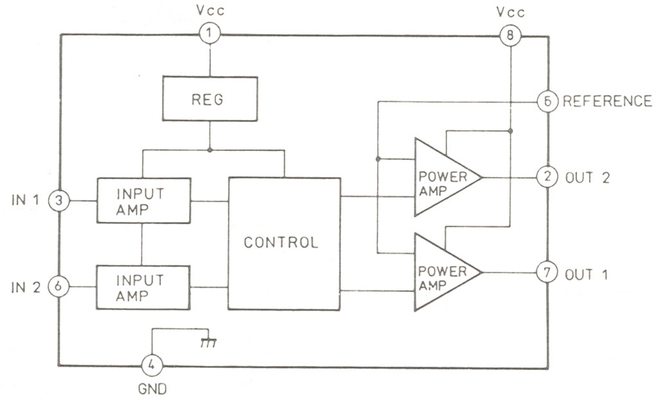


## 4-7. IC BLOCK DIAGRAMS

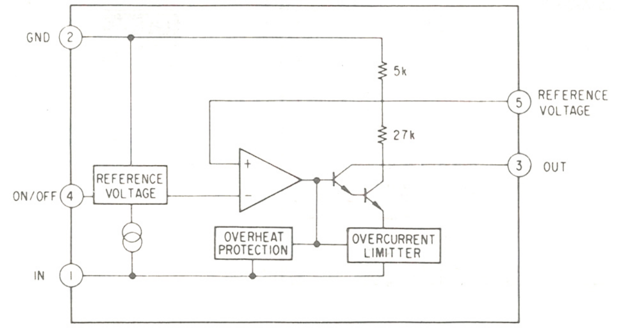
### IC101 CXA1372Q


DVCC
CC1
CC2
FOK
EFM
ASY
DFCT
MIRR
DGND
SENS
CUOT
XRST
FOK COMPARATOR
EFM COMPARATOR
AUTO ASY BUFFER
FOK AMP
LEVEL SHIFT
AUTO ASY CONTRL AMP
IIL → TTL
TTL → IIL
CB
CP
RFI
RFO
DFCT AMP
DFCT BOTTOM HOLD
DFCT COMPARATOR
MIRR COMPARATOR
MIRR AMP
PEAK & BOTTOM HOLD
MIRR DIFERENTIAL AMP
MIRR HOLD AMP
SEQUENCER
DATA
XLT
CLK
LOCK
DIRC
AVEE
DVEE
TZC
COMPARATOR
FS1-4
TG1, 2
TM1-7
PS1-3
SSTOP
TE
DFCT
TG1 T. GAIN UP/DOWN
TM1 T. SERVO ON/OFF
TRACKING PHASE COMPEN-SATION
I SET
F SET
ISET
FSET
TDFCT
ATSC
B.P.F
WINDOW COMPARATOR
FZC
FS1 F. SEARCH UP/DOWN
TM5
TM6
TM3
TM4
TM7 T. BRAKE SERVO ON/CHOP
TM7
SL-
SLED AMP
SLO
SL+
FE
FDFCT
FS3 F. GAIN DOWN/NORMAL
FOCUS PHASE COMPEN-SATION
FS4 FOCUS ON/OFF
FS2 F. SEARCH ON/OFF
FOCUS AMP
TG2 T. GAIN UP/DOWN
TRACKING AMP
TM2 SLED ON/OFF
VC
FGD
FS3
FLB
FEO
FE-
SRCH
TGU
TG2
AVCC
TAO
TA-

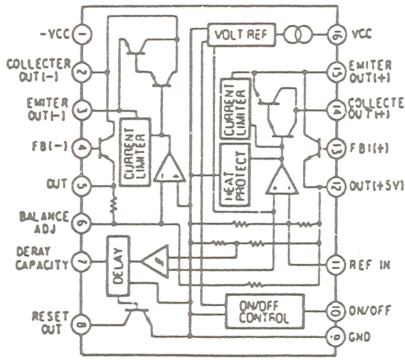
### IC103 M54641L


Vcc
Vcc
REG
REFERENCE
INPUT AMP
CONTROL
POWER AMP
OUT 2
IN 1
IN 2
INPUT AMP
POWER AMP
OUT 1
GND

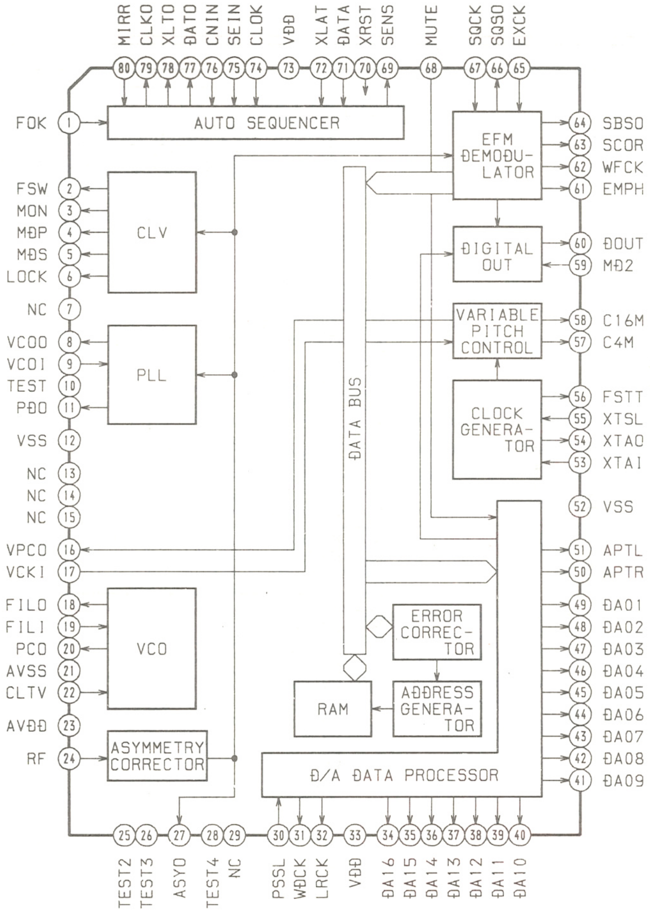
### IC201 M5293L


GND
5k
27k
REFERENCE VOLTAGE
OUT
ON/OFF
REFERENCE VOLTAGE
OVERHEAT PROTECTION
OVERCURRENT LIMITTER
IN

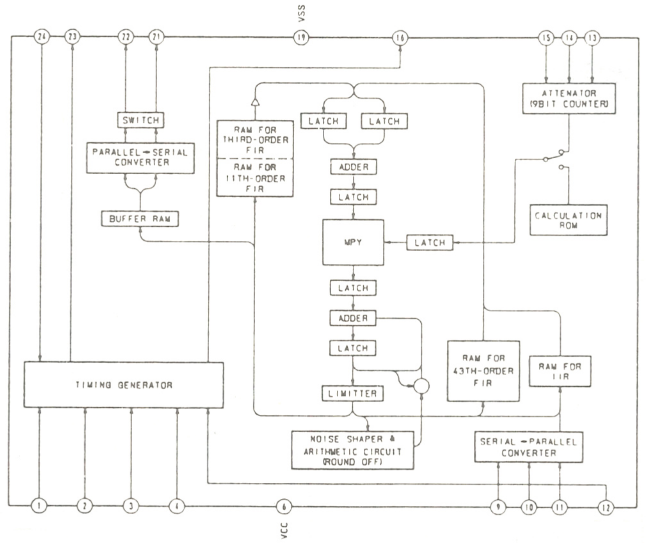
### IC202 M5290P-16


-VCC
COLLECTER OUT(-)
EMITER OUT(-)
FB(-)
OUT
BALANCE ADJ
DERAY CAPACITY
RESET OUT
VOLT REF
CURRENT LIMITER
CURRENT LIMITER
HEAT PROTECT
DELAY
ON/OFF CONTROL
VCC
EMITER OUT(+)
COLLECTER OUT(+)
FBI(+)
OUT(+5V)
REF IN
ON/OFF
GND

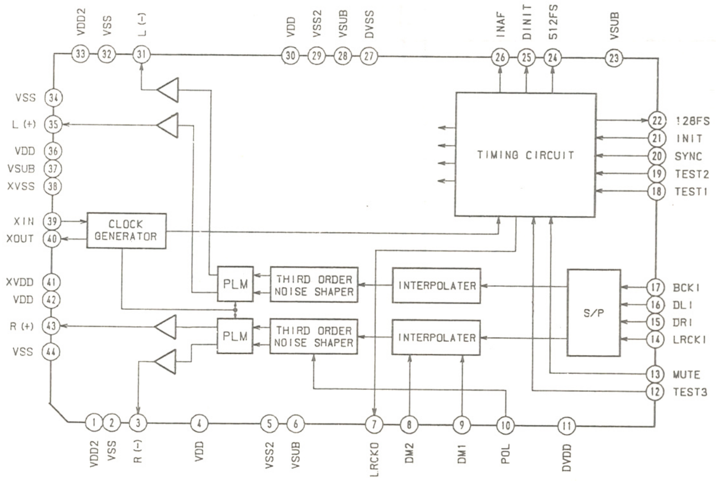
### IC301 CXD2500AQ


MIRR
CLKO
XLTO
DATO
CNIN
SEIN
CLOK
VDD
XLAT
DATA
XRST
SENS
MUTE
SQCK
SQSO
EXCK
FOK
AUTO SEQUENCER
EFM DEMODU-LATOR
SBSO
SCOR
WFCK
EMPH
FSW
MON
MDP
MDS
LOCK
CLV
DIGITAL OUT
DOUT
MD2
NC
VCOO
VCOI
TEST
PDO
PLL
VARIABLE PITCH CONTROL
C16M
C4M
CLOCK GENERA-TOR
FSTT
XTSL
XTAO
XTAI
VSS
DATA BUS
VSS
NC
NC
NC
VPCO
VCKI
APTL
APTR
FILO
FILI
PCO
AVSS
CLTV
VCO
ERROR CORREC-TOR
RAM
ADDRESS GENERA-TOR
DA01
DA02
DA03
DA04
DA05
DA06
DA07
DA08
DA09
AVDD
RF
ASYMMETRY CORRECTOR
D/A DATA PROCESSOR
TEST2
TEST3
ASYO
TEST4
NC
PSSL
WDCK
LRCK
VDD
DA16
DA15
DA14
DA13
DA12
DA11
DA10

### IC302 CXD2554P


VSS
SWITCH
PARALLEL → SERIAL CONVERTER
BUFFER RAM
RAM FOR THIRD-ORDER FIR
RAM FOR 11TH-ORDER FIR
LATCH
LATCH
ADDER
LATCH
MPY
LATCH
LATCH
ADDER
LATCH
LIMITTER
ATTENATOR (9BIT COUNTER)
CALCULATION ROM
RAM FOR 43TH-ORDER FIR
RAM FOR IIR
TIMING GENERATOR
NOISE SHAPER & ARITHMETIC CIRCUIT (ROUND OFF)
SERIAL → PARALLEL CONVERTER
VCC

### IC305 CXD2552AQ


VDD2
VSS
L (-)
VDD
VSS2
VSUB
DVSS
INAF
DINIT
512FS
VSUB
VSS
L (+)
VDD
VSUB
XVSS
XIN
XOUT
CLOCK GENERATOR
TIMING CIRCUIT
128FS
INIT
SYNC
TEST2
TEST1
XVDD
VDD
R (+)
VSS
PLM
PLM
THIRD ORDER NOISE SHAPER
THIRD ORDER NOISE SHAPER
INTERPOLATER
INTERPOLATER
S/P
BCKI
DLI
DRI
LRCKI
MUTE
TEST3
VDD2
VSS
R (-)
VDD
VSS2
VSUB
LRCKO
DM2
DM1
POL
DVDD

# SECTION 5

# EXPLODED VIEW

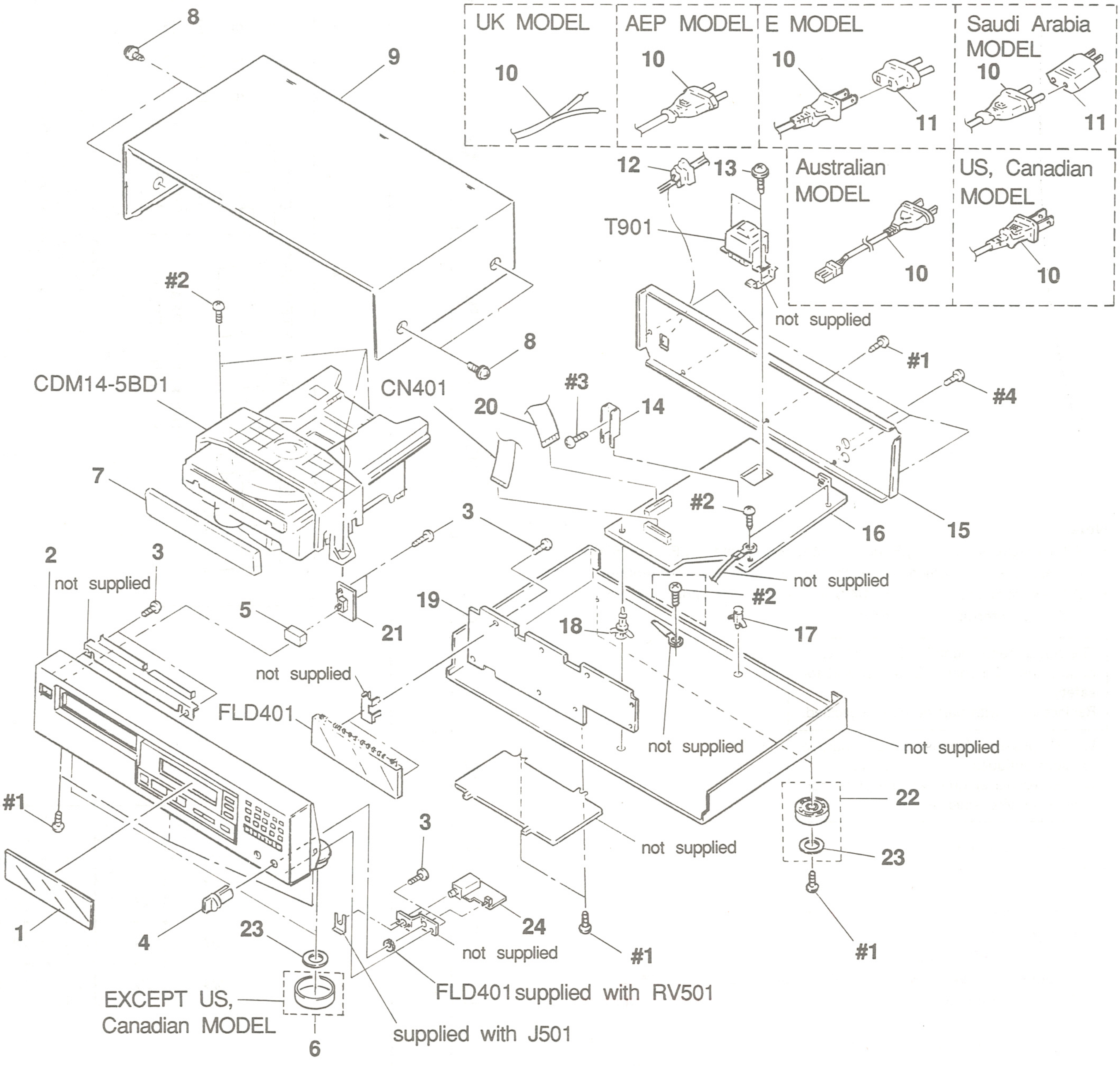
NOTE:

- –XX, –X mean standardized parts, so they may have some differences from the original one.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Color Indication of Appearance Parts
  Example:
  KNOB,BALANCE(WHITE)...(RED)
  ↑ ↑
  Parts color Cabinet's color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware(# mark) list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

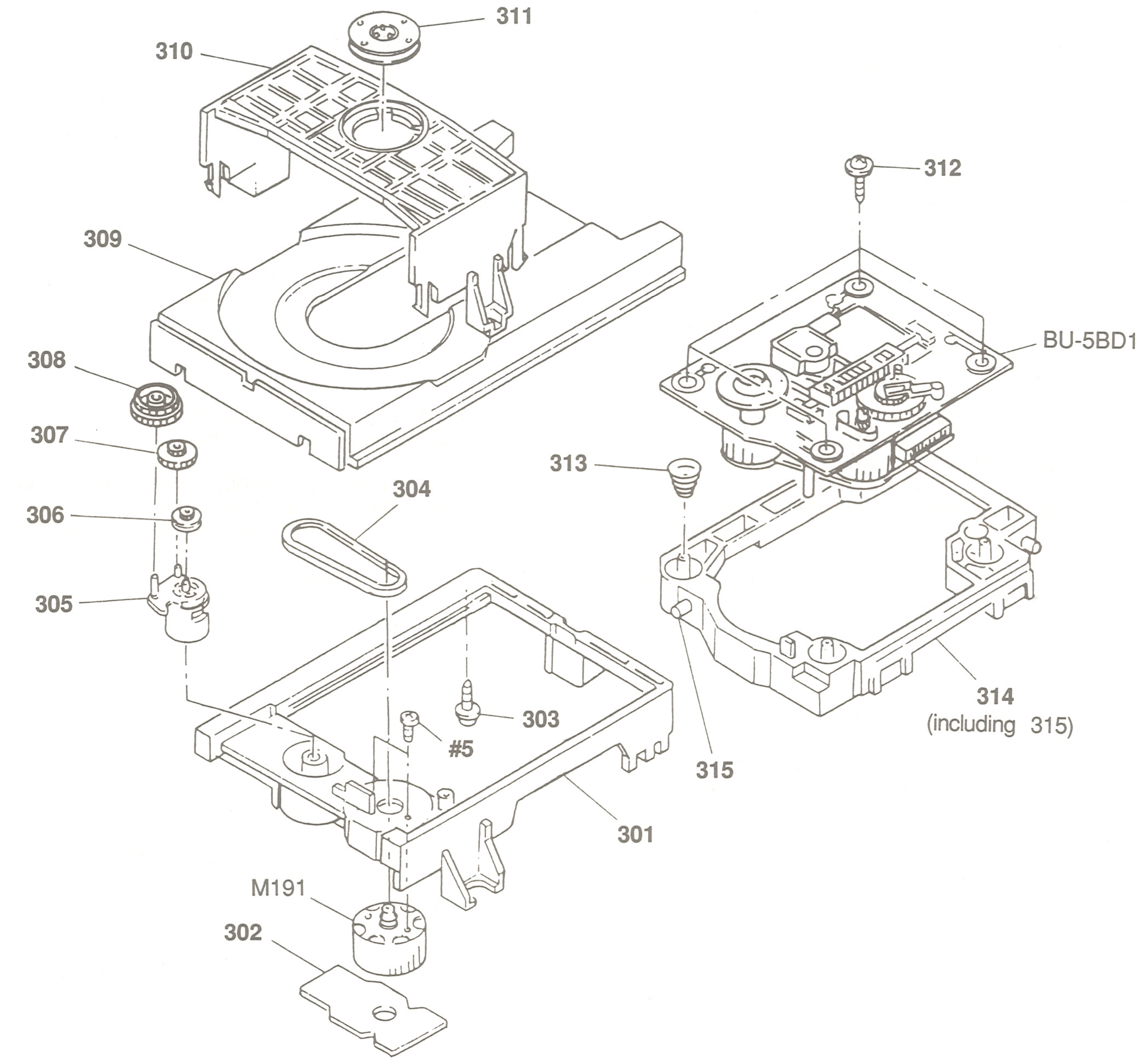
## (1) CABINET SECTION



UK MODEL
AEP MODEL
E MODEL
Saudi Arabia MODEL
Australian MODEL
US, Canadian MODEL
10
11
8
9
12
13
T901
not supplied
#1
#2
#3
#4
CDM14-5BD1
CN401
20
14
7
3
2
not supplied
5
21
19
18
16
15
17
not supplied
FLD401
22
23
1
4
24
6
EXCEPT US, Canadian MODEL
FLD401 supplied with RV501
supplied with J501

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 1 | 4-942-767-11 | PLATE, INDICATION (195) | |
| 1 | 4-942-767-01 | PLATE, INDICATION (295/491) | |
| 2 | X-4941-260-1 | PANEL ASSY, FRONT (MADE IN FRANCE 295:AEP) | |
| 2 | X-4941-262-1 | PANEL ASSY, FRONT (MADE IN JAPAN 195:AEP, E, Saudi Arabia, Aastralian) | |
| 2 | X-4941-261-1 | PANEL ASSY, FRONT (MADE IN JAPAN 195:US, Canadian) | |
| 2 | X-4941-263-1 | PANEL ASSY, FRONT (MADE IN FRANCE 195:AEP) | |
| 2 | X-4941-259-1 | PANEL ASSY, FRONT (MADE IN JAPAN 295:AEP, E, Australian) | |
| 2 | X-4941-258-1 | PANEL ASSY, FRONT (MADE IN JAPAN 295:Canadian) | |
| 2 | X-4941-430-1 | PANEL ASSY, FRONT(MADE IN JAPAN 491:US) | |
| 2 | X-4941-456-1 | PANEL ASSY, FRONT (MADE IN FRANCE 491:UK) | |
| 3 | 4-928-635-01 | SCREW, +BV (2.6X8) TAPPING | |
| 4 | 4-922-531-01 | KNOB (A TYPE), LOV | |
| 5 | 4-922-921-01 | BUTTON (POWER) | |
| 6 | 4-933-135-01 | RING (DIA. 58A), ORNAMENTAL (EXCEPT US, Canadian) | |
| 7 | 4-942-763-01 | PAENL, LOADING (MADE IN JAPAN 295/491) | |
| 7 | 4-942-763-11 | PAENL, LOADING (MADE IN FRANCE 295:AEP/491:UK) | |
| 7 | 4-942-763-21 | PAENL, LOADING (MADE IN JAPAN 195) | |
| 7 | 4-942-763-31 | PAENL, LOADING (MADE IN FRANCE 195) | |
| 8 | 3-704-366-01 | SCREW (CASE) (M3X8) | |
| 9 | 4-929-035-31 | CASE (MADE IN JAPAN 195/295/491) | |
| 9 | 4-929-035-41 | CASE (MADE IN FRANCE 195/295/491) | |
| 10 ⚠ | 1-574-390-31 | CORD, POWER (491:UK) | |
| 10 ⚠ | 1-574-653-21 | CORD, POWER (E) | |
| 10 ⚠ | 1-558-945-21 | CORD, POWER(POLAR, SPT-1) (US, Canadian) | |
| 10 ⚠ | 1-574-127-31 | CORD, POWER(MADE IN FRANCE 195/295:AEP) | |
| 10 ⚠ | 1-574-358-31 | CORD, POWER(WITH CONNECTOR) (195/295:Australian) | |
| 10 ⚠ | 1-575-651-21 | CORD, POWER (MADE IN JAPAN AEP, Saudi Arabia) | |
| 11 ⚠ | 1-569-007-11 | ADAPTOR, CONVERSION 2P (195/295:E) | |
| 11 ⚠ | 1-569-008-11 | ADAPTOR, CONVERSION 2P (195:Saudi Arabia) | |
| 12 | * 3-703-244-00 | BUSHING (2104), CORD (EXCEPT E, US, Canadian) | |
| 12 | * 3-703-571-12 | BUSHING (S)(4516), CORD (E, US, Canadian) | |
| 13 | 4-886-821-11 | SCREW, S TIGHT, +PTTWH 3X6 | |
| 14 | 4-902-345-01 | HEAT SINK | |
| 15 | * 4-942-769-21 | PANEL, BACK (MADE IN JAPAN 295:AEP) | |
| 15 | * 4-942-770-21 | PANEL, BACK (MADE IN JAPAN 195:AEP) | |
| 15 | * 4-942-770-41 | PANEL, BACK (195:Australian) | |
| 15 | * 4-942-769-41 | PANEL, BACK (295:Australian) | |
| 15 | * 4-942-770-31 | PANEL, BACK (195:E, Saudi Arabia) | |
| 15 | * 4-942-769-11 | PANEL, BACK (295:Canadian) | |
| 15 | * 4-942-770-11 | PANEL, BACK (195:Canadian) | |
| 15 | * 4-942-769-02 | PANEL, BACK (491:US) | |
| 15 | * 4-942-770-01 | PANEL, BACK (195:US) | |
| 15 | * 4-942-769-31 | PANEL, BACK (295:E) | |
| 15 | * 4-942-769-51 | PANEL, BACK (MADE IN FRANCE 195, 295:AEP/491:UK) | |
| 16 | * A-4617-692-A | MAIN BOARD, COMPLETE (MADE IN FRANCE) | |
| 16 | * A-4617-706-A | MAIN BOARD, COMPLETE (MADE IN JAPAN AEP, US, Canadian, Australian) | |
| 16 | * A-4617-708-A | MAIN BOARD, COMPLETE (MADE IN JAPAN E, Saudi Arabia) | |
| 17 | * 3-349-025-41 | HOLDER, PC BOARD | |
| 18 | * 4-924-098-01 | HOLDER, PC BOARD | |
| 19 | * A-4617-713-A | DISPLAY BOARD, COMPLETE(MADE IN FRANCE) | |
| 19 | * A-4617-705-A | DISPLAY BOARD, COMPLETE (MADE IN JAPAN 195/295/491) | |
| 20 | 1-575-002-11 | WIRE, FLAT TYPE (22 CORE) | |
| 21 | * 1-637-906-11 | POWER SW BOARD (MADE IN JAPAN) | |
| 21 | * 1-637-906-21 | POWER SW BOARD (MADE IN FRANCE) | |
| 22 | X-3304-938-2 | FOOT ASSY (EXCEPT US, Canadian) | |
| 22 | X-4885-950-2 | FOOT ASSY (US, Canadian) | |
| 23 | 4-923-836-11 | CUSHION | |
| 24 | * 1-637-908-11 | VOL BOARD (MADE IN JAPAN) | |
| 24 | * 1-637-908-21 | VOL BOARD (MADE IN FRANCE) | |
| CN401 | 1-535-883-11 | JUMPER, FILM (WITH TERMINAL) | |
| FLD401 | 1-519-611-11 | INDICATOR TUBE, FLUORESCENT | |
| T901 ⚠ | 1-449-923-11 | TRANSFORMER, POWER (E, Saudi Arabia) | |
| T901 ⚠ | 1-449-921-11 | TRANSFORMER, POWER (US, Canadian) | |
| T901 ⚠ | 1-449-925-11 | TRANSFORMER, POWER (MADE IN FRANCE AEP, UK) | |
| T901 ⚠ | 1-449-922-11 | TRANSFORMER, POWER (MADE IN JAPAN AEP, Australian) | |

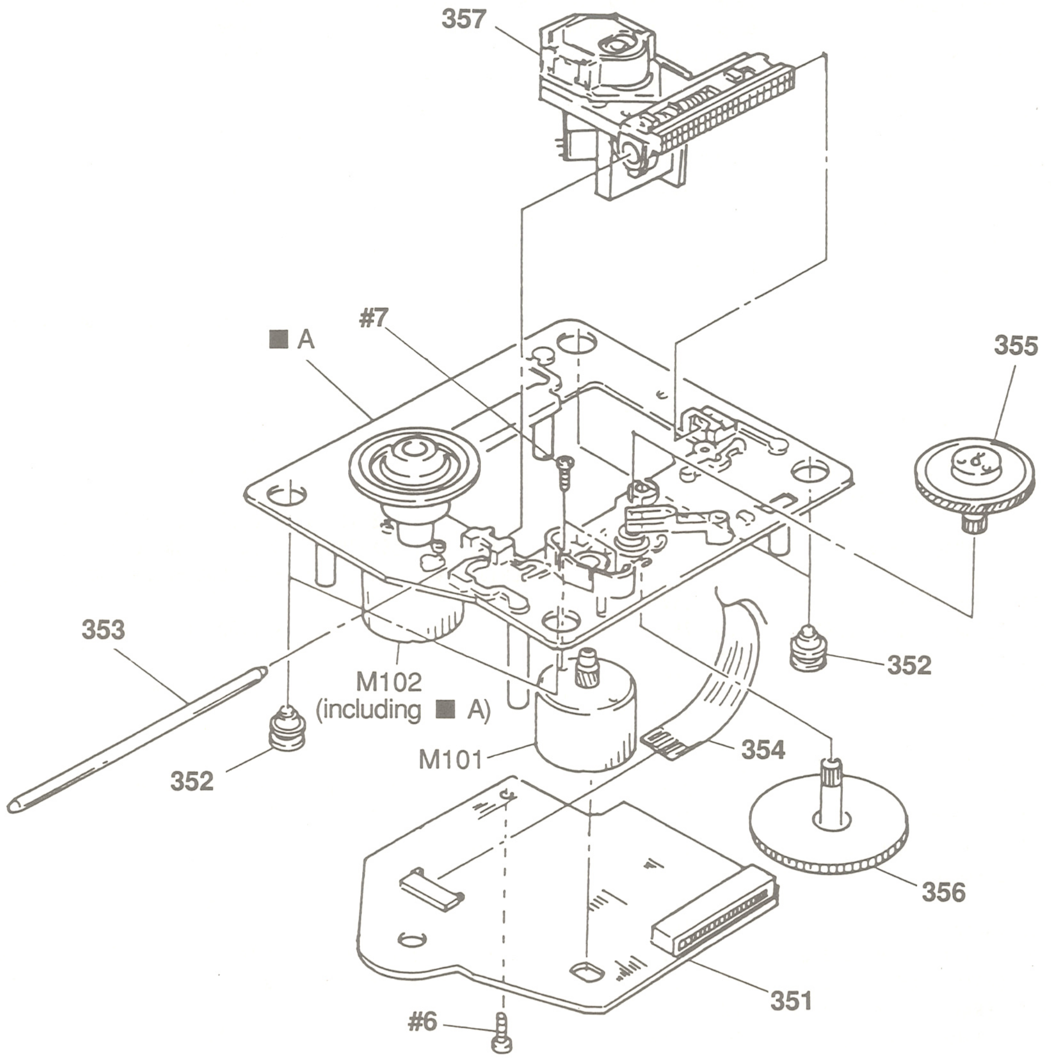
## (2) MD SECTION (CDM14-5BD1)


311
310
312
309
BU-5BD1
308
307
313
304
306
305
314
(including 315)
303
#5
315
301
M191
302

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 301 | 4-933-111-01 | CHASSIS (MD) | |
| 302 | * 1-632-202-11 | LOADING BOARD | |
| 303 | * 4-917-583-21 | BRACKET, YOKE | |
| 304 | 4-927-649-01 | BELT | |
| 305 | 4-933-109-01 | CAM | |
| 306 | 4-927-651-01 | PULLEY (S) | |
| 307 | 4-927-628-01 | GEAR (C) | |
| 308 | 4-933-107-01 | GEAR (PL) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 309 | 4-933-112-01 | TABLE, DISK | |
| 310 | 4-933-110-01 | HOLDER (MG) | |
| 311 | * 1-452-538-11 | MAGNET | |
| 312 | 4-933-134-01 | SCREW (+PTPWH M2.6X6) | |
| 313 | 4-917-541-01 | SPRING (B) | |
| 314 | 4-933-129-01 | HOLDER (BU) (INCLUDING 315) | |
| 315 | 4-933-108-01 | SHAFT (CAM) | |
| M191 | A-4604-363-A | MOTOR (L) ASSY (LOADING) | |

## (3) PICK-UP BLOCK (BU-5BD1)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| 351 | A-4617-161-A | BD BOARD, COMPLETE | |
| 352 | 4-933-126-01 | INSULATOR (A) | |
| 353 | 4-917-565-01 | SHAFT, SLED | |
| 354 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 355 | 4-917-567-01 | GEAR (M) | |
| 356 | 4-917-564-01 | GEAR (P), FLATNESS | |
| 357 ⚠ | 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| M101 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| M102 | X-4917-523-3 | MOTOR ASSY (SPINDLE) | |

**BD**

# SECTION 6
# ELECTRICAL PARTS LIST

**NOTE:**

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- –XX, –X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE : Metal Oxide-film resistor
  F : nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : μ, for example :
  uA...: μA..., uPA...: μPA...,
  uPB...: μPB..., uPC...: μPC...,
  uPD...: μPD...
- CAPACITORS
  uF :μF
- COILS
  uH : μH
- Hardware(# mark) list is given in the last of this parts list.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | A-4617-161-A | BD BOARD, COMPLETE | | | |
| | | ****************** | | | |
| | | < CAPACITOR > | | | |
| C101 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C102 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C103 | 1-126-163-11 | ELECT | 4.7uF | 20% | 50V |
| C104 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C105 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C106 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C107 | 1-126-154-11 | ELECT | 47uF | 20% | 6.3V |
| C108 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C109 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C110 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C111 | 1-131-367-00 | TANTALUM | 22uF | 10% | 20V |
| C112 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C113 | 1-164-232-11 | CERAMIC CHIP | 0.01uF | | 50V |
| C114 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C115 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C117 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C118 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C119 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C120 | 1-163-989-11 | CERAMIC CHIP | 0.033uF | 10% | 25V |
| C151 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C152 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C153 | 1-163-006-11 | CERAMIC CHIP | 560PF | 10% | 50V |
| C154 | 1-164-161-11 | CERAMIC CHIP | 0.0022uF | 10% | 100V |
| C155 | 1-163-023-00 | CERAMIC CHIP | 0.015uF | 5% | 50V |
| C171 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C172 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C173 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C174 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| | | < CONNECTOR > | | | |
| CN101 | 1-568-796-11 | SOCKET, CONNECTOR 22P | | | |
| CN102 | 1-568-795-11 | SOCKET, CONNECTOR 12P | | | |
| CN103 | * 1-564-721-11 | PIN, CONNECTOR (SMALL TYPE) 5P | | | |
| | | < DIODE > | | | |
| D101 | 8-719-105-72 | DIODE RD4.7M-B1 | | | |
| | | < IC > | | | |
| IC101 | 8-752-050-82 | IC SC CXA1372Q | | | |
| IC102 | 8-759-822-36 | IC LA6532M | | | |
| IC103 | 8-759-633-65 | IC M54641L | | | |
| | | < JUMPER > | | | |
| J101 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| J102 | 1-216-295-00 | METAL CHIP | 0 | 5% | 1/10W |
| | | < TRANSISTOR > | | | |
| Q101 | 8-729-901-01 | TRANSISTOR DTC144EK | | | |
| | | < RESISTOR > | | | |
| R101 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R102 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R103 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R104 | 1-216-099-00 | METAL CHIP | 120K | 5% | 1/10W |
| R105 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R106 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R107 | 1-216-114-00 | METAL GLAZE | 510K | 5% | 1/10W |
| R108 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R109 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R110 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R111 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R112 | 1-216-083-00 | METAL CHIP 27K 5% 1/10W | |
| R113 | 1-216-071-00 | METAL CHIP 8.2K 5% 1/10W | |
| R114 | 1-216-105-00 | METAL CHIP 220K 5% 1/10W | |
| R152 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R153 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R154 | 1-216-085-00 | METAL CHIP 33K 5% 1/10W | |
| R155 | 1-216-093-00 | METAL CHIP 68K 5% 1/10W | |
| R156 | 1-216-081-00 | METAL CHIP 22K 5% 1/10W | |
| R157 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R158 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R159 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R160 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R171 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R172 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R173 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |
| R174 | 1-216-001-00 | METAL CHIP 10 5% 1/10W | |

< VARIABLE RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| RV101 | 1-238-016-11 | RES, ADJ, CARBON 10K (TRACKING GAIN) | |
| RV102 | 1-238-016-11 | RES, ADJ, CARBON 10K (FOCUS GAIN) | |

< SWITCH >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S101 | 1-572-085-11 | SWITCH, LEAF (LIMIT IN) | |

*************************************************************

* A-4617-705-A DISPLAY BOARD, COMPLETE(MADE IN JAPAN)
* A-4617-713-A DISPLAY BOARD, COMPLETE (MADE IN FRANCE)

***************************************

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | 4-944-482-11 | SPACER (75X7) | |

< CAPACITOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| C401 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C402 | 1-124-261-00 | ELECT 10uF 20% 50V | |
| C403 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| C404 | 1-124-261-00 | ELECT 10uF 20% 50V | |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CN401 | 1-535-883-11 | JUMPER, FILM (WITH TERMINAL) | |

< INDICATOR FLUORESCENT >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| FLD401 | 1-519-611-11 | INDICATOR TUBE, FLUORESCENT | |

< IC >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| IC401 | 8-752-817-41 | IC CXP50112-097Q | |
| IC402 | 8-749-920-83 | IC GP1U52XB | |

< RESISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| R402 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R403 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R404 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R405 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R406 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R407 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R408 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R409 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R410 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R411 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R412 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R413 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R414 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R415 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R416 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R417 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R418 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R419 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R420 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R421 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R422 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R423 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R424 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R425 | 1-216-069-00 | METAL CHIP 6.8K 5% 1/10W | |
| R426 | 1-216-063-00 | METAL CHIP 3.9K 5% 1/10W | |
| R427 | 1-216-059-00 | METAL CHIP 2.7K 5% 1/10W | |
| R428 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R429 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R430 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R431 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R432 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R433 | 1-216-073-00 | METAL CHIP 10K 5% 1/10W | |
| R434 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |
| R435 | 1-216-079-00 | METAL CHIP 18K 5% 1/10W | |

< SWITCH > (MADE IN JAPAN)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S401 | 1-554-303-81 | SWITCH, KEY BOARD (1) | |
| S402 | 1-554-303-81 | SWITCH, KEY BOARD (2) | |
| S403 | 1-554-303-81 | SWITCH, KEY BOARD (3) | |
| S404 | 1-554-303-81 | SWITCH, KEY BOARD (4) | |
| S405 | 1-554-303-81 | SWITCH, KEY BOARD (5) | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S406 | 1-554-303-81 | SWITCH, KEY BOARD (6) | |
| S407 | 1-554-303-81 | SWITCH, KEY BOARD (7) | |
| S408 | 1-554-303-81 | SWITCH, KEY BOARD (8) | |
| S409 | 1-554-303-81 | SWITCH, KEY BOARD (9) | |
| S410 | 1-554-303-81 | SWITCH, KEY BOARD (10) | |
| S411 | 1-554-303-81 | SWITCH, KEY BOARD (11) | |
| S412 | 1-554-303-81 | SWITCH, KEY BOARD (12) | |
| S413 | 1-554-303-81 | SWITCH, KEY BOARD (>12) | |
| S414 | 1-554-303-81 | SWITCH, KEY BOARD (MUSIC SCAN) | |
| S415 | 1-554-303-81 | SWITCH, KEY BOARD (PEAK SEARCH) | |
| S416 | 1-554-303-81 | SWITCH, KEY BOARD (CONTINUE) | |
| S417 | 1-554-303-81 | SWITCH, KEY BOARD (SHUFFLE) | |
| S419 | 1-554-303-81 | SWITCH, KEY BOARD (EDIT/TIME FADE) | |
| S420 | 1-554-303-81 | SWITCH, KEY BOARD (▶▶|, ▶▶) | |
| S421 | 1-554-303-81 | SWITCH, KEY BOARD (|◀◀, ◀◀) | |
| S422 | 1-554-303-81 | SWITCH, KEY BOARD (■) | |
| S423 | 1-554-303-81 | SWITCH, KEY BOARD (❚❚) | |
| S424 | 1-554-303-81 | SWITCH, KEY BOARD (▶) | |
| S425 | 1-554-303-81 | SWITCH, KEY BOARD (OPEN/CLOSE ⏏) | |
| S426 | 1-554-303-81 | SWITCH, KEY BOARD (CHECK) | |
| S427 | 1-554-303-81 | SWITCH, KEY BOARD (CLEAR) | |
| S428 | 1-554-303-81 | SWITCH, KEY BOARD (TIMER) | |
| S429 | 1-554-303-81 | SWITCH, KEY BOARD (REPEAT) | |
| S430 | 1-554-303-81 | SWITCH, KEY BOARD (FADER) | |
| S718 | 1-554-303-81 | SWITCH, KEY BOARD (PROGRAM) | |

< SWITCH > (MADE IN FRANCE)

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S401 | 1-554-303-52 | SWITCH, KEY BOARD (1) | |
| S402 | 1-554-303-52 | SWITCH, KEY BOARD (2) | |
| S403 | 1-554-303-52 | SWITCH, KEY BOARD (3) | |
| S404 | 1-554-303-52 | SWITCH, KEY BOARD (4) | |
| S405 | 1-554-303-52 | SWITCH, KEY BOARD (5) | |
| S406 | 1-554-303-52 | SWITCH, KEY BOARD (6) | |
| S407 | 1-554-303-52 | SWITCH, KEY BOARD (7) | |
| S408 | 1-554-303-52 | SWITCH, KEY BOARD (8) | |
| S409 | 1-554-303-52 | SWITCH, KEY BOARD (9) | |
| S410 | 1-554-303-52 | SWITCH, KEY BOARD (10) | |
| S411 | 1-554-303-52 | SWITCH, KEY BOARD (11) | |
| S412 | 1-554-303-52 | SWITCH, KEY BOARD (12) | |
| S413 | 1-554-303-52 | SWITCH, KEY BOARD (>12) | |
| S414 | 1-554-303-52 | SWITCH, KEY BOARD (MUSIC SCAN) | |
| S415 | 1-554-303-52 | SWITCH, KEY BOARD (PEAK SEARCH) | |
| S416 | 1-554-303-52 | SWITCH, KEY BOARD (CONTINUE) | |
| S417 | 1-554-303-52 | SWITCH, KEY BOARD (SHUFFLE) | |
| S419 | 1-554-303-52 | SWITCH, KEY BOARD (EDIT/TIME FADE) | |
| S420 | 1-554-303-52 | SWITCH, KEY BOARD (▶▶|, ▶▶) | |
| S421 | 1-554-303-52 | SWITCH, KEY BOARD (|◀◀, ◀◀) | |
| S422 | 1-554-303-52 | SWITCH, KEY BOARD (■) | |
| S423 | 1-554-303-52 | SWITCH, KEY BOARD (❚❚) | |
| S424 | 1-554-303-52 | SWITCH, KEY BOARD (▶) | |
| S425 | 1-554-303-52 | SWITCH, KEY BOARD (OPEN/CLOSE ⏏) | |
| S426 | 1-554-303-52 | SWITCH, KEY BOARD (CHECK) | |
| S427 | 1-554-303-52 | SWITCH, KEY BOARD (CLEAR) | |
| S428 | 1-554-303-52 | SWITCH, KEY BOARD (TIMER) | |
| S429 | 1-554-303-52 | SWITCH, KEY BOARD (REPEAT) | |
| S430 | 1-554-303-52 | SWITCH, KEY BOARD (FADER) | |
| S718 | 1-554-303-52 | SWITCH, KEY BOARD (PROGRAM) | |

< CRYSTAL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| X401 | 1-577-358-21 | VIBRATOR, CERAMIC (4MHz) | |

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * 1-632-202-11 | LOADING BOARD<br>************* | |

< CONNECTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| CN301 | * 1-564-707-11 | PIN, CONNECTOR (SMALL TYPE) 5P | |

< SWITCH >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S191 | 1-572-086-11 | SWITCH, LEAF (LOAD OUT) | |
| S192 | 1-572-086-11 | SWITCH, LEAF (LOAD IN) | |

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * A-4617-692-A | MAIN BOARD, COMPLETE (MADE IN FRANCE AEP, UK) | |
| | * A-4617-706-A | MAIN BOARD, COMPLETE (MADE IN JAPAN: AEP, US, Canadian, Australian) | |
| | * A-4617-708-A | MAIN BOARD, COMPLETE (MADE IN JAPAN: E, Saudi Arabia)<br>************************************ | |
| | 4-902-345-01 | HEAT SINK | |
| | 7-682-547-09 | SCREW +B 3X6 | |

< CAPACITOR >

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| C201 | 1-124-572-11 | ELECT | 100uF | 20% | 63V | |
| C202 | 1-123-875-11 | ELECT | 10uF | 20% | 50V | |
| C203 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | |
| C204 | 1-124-898-11 | ELECT | 4700uF | 20% | 16V | |
| C205 | 1-124-927-11 | ELECT | 4.7uF | 20% | 100V | |
| C206 | 1-123-875-11 | ELECT | 10uF | 20% | 50V | |
| C207 | 1-123-875-11 | ELECT | 10uF | 20% | 50V | |
| C208 | 1-124-472-11 | ELECT | 470uF | 20% | 10V | |
| C209 | 1-124-472-11 | ELECT | 470uF | 20% | 10V | |
| C210 | 1-124-120-11 | ELECT | 220uF | 20% | 25V | |

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C211 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C212 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C221 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |
| C301 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C302 | 1-124-791-11 | ELECT | 1. 0uF | 20% | 100V |
| C311 | 1-106-383-00 | MYLAR | 0. 047uF | 5% | 200V |
| C312 | 1-161-374-11 | CERAMIC | 0. 0015uF | 20% | 50V |
| C313 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C314 | 1-162-306-11 | CERAMIC | 0. 01uF | 20% | 16V |
| C315 | 1-124-902-00 | ELECT | 0. 47uF | 20% | 50V |
| C316 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C317 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |
| C321 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C331 | 1-162-208-31 | CERAMIC | 24PF | 5% | 50V |
| C332 | 1-106-220-00 | MYLAR | 0. 1uF | 5% | 100V |
| C333 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C335 | 1-162-205-31 | CERAMIC | 18PF | 5% | 50V |
| C341 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C342 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C343 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C344 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C345 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C346 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |
| C347 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C348 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |
| C349 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C350 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C351 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C352 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C353 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C354 | 1-162-199-31 | CERAMIC | 10PF | 5% | 50V |
| C355 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C356 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C357 | 1-124-472-11 | ELECT | 470uF | 20% | 10V |
| C361 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C362 | 1-162-285-31 | CERAMIC | 180PF | 10% | 50V |
| C363 | 1-162-283-31 | CERAMIC | 120PF | 10% | 50V |
| C364 | 1-162-283-31 | CERAMIC | 120PF | 10% | 50V |
| C365 | 1-162-283-31 | CERAMIC | 120PF | 10% | 50V |
| C366 | 1-162-283-31 | CERAMIC | 120PF | 10% | 50V |
| C367 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C368 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C371 | 1-106-359-00 | MYLAR | 4700PF | 5% | 200V |
| C372 | 1-106-359-00 | MYLAR | 4700PF | 5% | 200V |
| C373 | 1-106-345-00 | MYLAR | 0. 0012uF | 5% | 100V |
| C374 | 1-106-345-00 | MYLAR | 0. 0012uF | 5% | 100V |
| C375 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C376 | 1-161-494-00 | CERAMIC | 0. 022uF | | 25V |
| C377 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |

| Ref. No. | Part No. | Description | | | Remark |
|---|---|---|---|---|---|
| C378 | 1-124-477-11 | ELECT | 47uF | 20% | 25V |
| C379 | 1-106-349-00 | MYLAR | 0. 0018uF | 5% | 100V |
| C380 | 1-106-349-00 | MYLAR | 0. 0018uF | 5% | 100V |
| C392 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |
| C394 | 1-164-159-11 | CERAMIC | 0. 1uF | | 50V |

< CONNECTOR >

| Ref. No. | Part No. | Description |
|---|---|---|
| CN201 | * 1-580-230-11 | PIN, CONNECTOR (PC BOARD) 3P |
| CN301 | * 1-568-843-11 | SOCKET, CONNECTOR 28P |
| CN302 | * 1-568-822-11 | SOCKET, CONNECTOR 22P |
| CN381 | * 1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P |

< DIODE >

| Ref. No. | Part No. | Description |
|---|---|---|
| D201 | 8-719-200-82 | DIODE 11ES2 |
| D202 | 8-719-109-96 | DIODE RD6. 8ES-T1B |
| D203 | 8-719-200-82 | DIODE 11ES2 |
| D204 | 8-719-200-82 | DIODE 11ES2 |
| D205 | 8-719-200-82 | DIODE 11ES2 |
| D206 | 8-719-200-82 | DIODE 11ES2 |
| D207 | 8-719-114-49 | DIODE RD7. 5JS-T1B2 |
| D208 | 8-719-109-89 | DIODE RD5. 6ES-B2 |
| D209 | 8-719-107-94 | DIODE 1SS202-1 (MADE IN FRANCE) |
| D209 | 8-719-987-63 | DIODE 1N4148M (MADE IN JAPAN) |
| D341 | 8-719-210-21 | DIODE 11EQS04 |
| D351 | 8-719-107-94 | DIODE 1SS202-1 (MADE IN FRANCE) |
| D351 | 8-719-987-63 | DIODE 1N4148M (MADE IN JAPAN) |

< IC >

| Ref. No. | Part No. | Description |
|---|---|---|
| IC201 | 8-759-633-42 | IC M5293L |
| IC202 | 8-759-630-21 | IC M5290P-16 |
| IC203 | 8-759-945-58 | IC RC4558P |
| IC301 | 8-752-337-26 | IC CXD2500AQ |
| IC302 | 8-752-337-09 | IC CXD2554P |
| IC303 | 8-759-917-18 | IC SN74HCU04AN |
| IC305 | 8-752-334-87 | IC CXD2552Q |
| IC306 | 8-759-990-82 | IC TL082CP |
| IC307 | 8-759-945-58 | IC RC4558P |

< JACK >

| Ref. No. | Part No. | Description |
|---|---|---|
| J381 | 1-569-442-11 | JACK, PIN 2P (LINE OUT) |

< COIL >

| Ref. No. | Part No. | Description |
|---|---|---|
| L331 | 1-408-403-00 | INDUCTOR 3. 3uH |

< IC LINK >

| Ref. No. | Part No. | Description |
|---|---|---|
| PS201⚠ | 1-532-685-00 | LINK, IC (ICP-N20) |
| PS202⚠ | 1-532-637-00 | LINK, IC 1. 0A (ICP-N25) |

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

# MAIN POWER SW

< TRANSISTOR >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| Q201 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q202 | 8-729-140-96 | TRANSISTOR 2SD774-34 | |
| Q203 | 8-729-111-67 | TRANSISTOR 2SB1094-L | |
| Q204 | 8-729-900-65 | TRANSISTOR DTA144ES | |
| Q205 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q206 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q207 | 8-729-230-45 | TRANSISTOR 2SC2458-YGR | |
| Q208 | 8-729-821-73 | TRANSISTOR 2SB1274SA-RS | |
| Q209 | 8-729-281-52 | TRANSISTOR 2SC1815Y-Y | |
| Q343 | 8-729-900-65 | TRANSISTOR DTA144ES | |
| Q344 | 8-729-900-89 | TRANSISTOR DTC144ES | |
| Q371 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q372 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q373 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |
| Q374 | 8-729-141-30 | TRANSISTOR 2SC3623A-LK | |

< RESISTOR >

| Ref. No. | Part No. | Description | | | | Remark |
|---|---|---|---|---|---|---|
| R201 | 1-249-435-11 | CARBON | 33K | 5% | 1/4W | |
| R202 | 1-249-438-11 | CARBON | 56K | 5% | 1/4W | |
| R203 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R204 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R205 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R206 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R207 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R208 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R209 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W | |
| R210 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R211 | 1-249-410-11 | CARBON | 270 | 5% | 1/4W | |
| R214 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R301 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R302 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R303 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R304 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W | |
| R311 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R312 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R313 | 1-249-423-11 | CARBON | 3.3K | 5% | 1/4W | |
| R314 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R315 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R316 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R317 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W | |
| R318 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R321 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R322 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R323 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R324 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W | |
| R331 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R332 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R333 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R334 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R341 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W | |
| R342 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W | |
| R347 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W | |
| R348 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R351 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R352 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R353 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R354 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W | |
| R355 | 1-247-848-11 | CARBON | 5.1K | 5% | 1/4W | |
| R356 | 1-249-405-11 | CARBON | 100 | 5% | 1/4W | |
| R361 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W | |
| R362 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W | |
| R363 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W | |
| R364 | 1-247-838-00 | CARBON | 2K | 5% | 1/4W | |
| R365 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R366 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R367 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R368 | 1-249-432-11 | CARBON | 18K | 5% | 1/4W | |
| R369 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R370 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R371 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R372 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W | |
| R373 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R374 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W | |
| R375 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R376 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R377 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R378 | 1-249-409-11 | CARBON | 220 | 5% | 1/4W | |
| R379 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R380 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R381 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R382 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W | |
| R383 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |
| R384 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W | |

< SWITCH >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| S201 ⚠ | 1-571-722-11 | SWITCH, VOLTAGE SELECTION | (E, Saudi Arabia) |

< CRYSTAL >

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| X351 | 1-579-161-11 | VIBRATOR, CRYSTAL (45MHz) | |

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* 1-637-906-11 POWER SW BOARD (MADE IN JAPAN)
* 1-637-906-21 POWER SW BOARD (MADE IN FRANCE)

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The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | < CONNECTOR > | |
| CN491 | * 1-568-953-11 | PIN, CONNECTOR 4P | |
| | | < SWITCH > | |
| S491 | 1-554-118-00 | SWITCH, PUSH (1 KEY) (POWER) | |

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| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | * 1-637-908-11 | VOL BOARD (MADE IN JAPAN) | |
| | * 1-637-908-21 | VOL BOARD (MADE IN FRANCE) | |
| | | ************************** | |
| | | < CAPACITOR > | |
| C510 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C511 | 1-163-133-00 | CERAMIC CHIP 470PF 5% 50V | |
| C520 | 1-124-584-00 | ELECT 100uF 20% 10V | |
| C521 | 1-163-133-00 | CERAMIC CHIP 470PF 5% 50V | |
| C530 | 1-163-038-00 | CERAMIC CHIP 0.1uF 25V | |
| | | < CONNECTOR > | |
| CN501 | * 1-564-708-11 | PIN, CONNECTOR (SMALL TYPE) 6P | |
| | | < IC > | |
| IC501 | 8-759-981-89 | IC RC4556S | |
| | | < JACK > | |
| J501 | 1-568-519-41 | JACK, LARGE TYPE (PHONES) | |
| | | < COIL > | |
| L501 | 1-424-090-11 | COIL, LINE FILTER | |
| L511 | 1-424-090-11 | COIL, LINE FILTER | |
| L521 | 1-424-090-11 | COIL, LINE FILTER | |
| | | < RESISTOR > | |
| R510 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R511 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R512 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R513 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| R520 | 1-216-049-00 | METAL CHIP 1K 5% 1/10W | |
| R521 | 1-216-065-00 | METAL CHIP 4.7K 5% 1/10W | |
| R522 | 1-216-067-00 | METAL CHIP 5.6K 5% 1/10W | |
| R523 | 1-216-025-00 | METAL CHIP 100 5% 1/10W | |
| | | < VARIABLE RESISTOR > | |
| RV501 | 1-241-386-11 | RES, VAR, CARBON 20K/20K (LEVEL) | |

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | MISCELLANEOUS | |
| | | ************* | |
| 10 | ⚠ 1-558-945-21 | CORD, POWER(POLAR, SPT-1) (US, Canadian) | |
| 10 | ⚠ 1-574-127-31 | CORD, POWER(MADE IN FRANCE 195/295:AEP) | |
| 10 | ⚠ 1-574-358-31 | CORD, POWER(WITH CONNECTOR) | |
| 10 | ⚠ 1-574-390-31 | CORD, POWER (491:UK) | |
| 10 | ⚠ 1-574-653-21 | CORD, POWER (E) | |
| 10 | ⚠ 1-575-651-21 | CORD, POWER (MADE IN JAPAN | |
| 11 | ⚠ 1-569-007-11 | ADAPTOR, CONVERSION 2P (195/295:E) | |
| 11 | ⚠ 1-569-008-11 | ADAPTOR, CONVERSION 2P | |
| 20 | 1-575-002-11 | WIRE, FLAT TYPE (22 CORE) | |
| 21 | * 1-637-906-11 | POWER SW BOARD (MADE IN JAPAN) | |
| 21 | * 1-637-906-21 | POWER SW BOARD (MADE IN FRANCE) | |
| 24 | * 1-637-908-11 | VOL BOARD (MADE IN JAPAN) | |
| 24 | * 1-637-908-21 | VOL BOARD (MADE IN FRANCE) | |
| 311 | * 1-452-538-11 | MAGNET | |
| 354 | 1-575-001-11 | WIRE, FLAT TYPE (12 CORE) | |
| 357 | ⚠ 8-848-144-11 | DEVICE, OPTICAL KSS-240A | |
| CN401 | 1-535-883-11 | JUMPER, FILM (WITH TERMINAL) | |
| FLD401 | 1-519-611-11 | INDICATOR TUBE, FLURESCENT | |
| M101 | X-4917-504-1 | MOTOR ASSY (SLED) | |
| M102 | X-4917-523-3 | MOTOR ASSY (SPINDLE) | |
| M191 | A-4604-363-A | MOTOR (L) ASSY (LOADING) | |
| T901 | ⚠ 1-449-921-11 | TRANSFORMER, POWER (US, Canadian) | |
| T901 | ⚠ 1-449-922-11 | TRANSFORMER, POWER (MADE IN JAPAN AEP, Australian) | |
| T901 | ⚠ 1-449-923-11 | TRANSFORMER, POWER (E, Saudi Arabia) | |
| T901 | ⚠ 1-449-925-11 | TRANSFORMER, POWER (MADE IN FRANCE AEP, UK) | |

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Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark |
|---|---|---|---|
| | | ACCESSORY & PACKING MATERIAL | |
| | 1-465-635-11 | COMMANDER, REMOTE (RM-D295) (MADE IN JAPAN 295/491) | |
| | 1-465-635-21 | COMMANDER, REMOTE (RM-D295) (MADE IN FRANCE 295/491) | |
| | 1-558-271-11 | CORD, CONNECTION | |
| | 2-181-754-01 | COVER (MLY), BATTERY (295/491) | |
| | * 3-750-090-01 | INSTRUCTION (MADE IN JAPAN 195:AEP, Canadian/295:Canadian) | |
| | * 3-795-629-15 | INSTRUCTION (MADE IN JAPAN 295:AEP) | |
| | 3-752-961-11 | MANUAL, INSTRUCTION (ENGLISH, F, E, P) (MADE IN JAPAN 295) | |
| | 3-752-961-21 | MANUAL, INSTRUCTION (ENGLISH) (MADE IN JAPAN 491:US) | |
| | 3-752-961-41 | MANUAL, INSTRUCTION (D, NL, S, I) (MADE IN JAPAN 295:AEP) | |
| | 3-752-961-51 | MANUAL, INSTRUCTION (ENGLISH, F, E, P) (MADE IN FRANCE 295:AEP/491:UK) | |
| | 3-752-961-61 | MANUAL, INSTRUCTION (D, NL, S, I) (MADE IN FRANCE 295:AEP) | |
| | 3-752-962-11 | MANUAL, INSTRUCTION (ENGLISH, F, E, P) (MADE IN JAPAN 195:AEP, E, Canadian, Saudi Arabia) | |
| | 3-752-962-21 | MANUAL, INSTRUCTION (ENGLISH) (MADE IN JAPAN 195:US) | |
| | 3-752-962-51 | MANUAL, INSTRUCTION (ENGLISH, F, E, P) (MADE IN FRANCE 195:AEP) | |
| | 3-752-962-41 | MANUAL, INSTRUCTION (D, NL, S, I) (MADE IN JAPAN 195:AEP) | |
| | 3-752-962-61 | MANUAL, INSTRUCTION (D, NL, S, I) (MADE IN FRANCE 195:AEP) | |
| | * 4-925-389-01 | CUSHION (MADE IN JAPAN 195/295/491) | |
| | * 4-929-506-02 | CUSHION (MADE IN FRANCE 195/295/491) | |
| | * 4-941-548-01 | LABEL, CLASS 1 (EXCEPT US, Canadian) | |
| | * 4-939-718-41 | INDIVIDUAL CARTON (MADE IN JAPAN 295) | |
| | * 4-939-718-51 | INDIVIDUAL CARTON (MADE IN JAPAN 491) | |
| | * 4-939-718-61 | INDIVIDUAL CARTON (MADE IN JAPAN 195) | |
| | * 4-942-897-11 | INDIVIDUAL CARTON (MADE IN FRANCE 295:AEP) | |
| | * 4-942-897-21 | INDIVIDUAL CARTON (MADE IN FRANCE 195:AEP) | |
| | * 4-942-897-31 | INDIVIDUAL CARTON (MADE IN FRANCE 491:UK) | |

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HARDWARE LIST

| Ref. No. | Part No. | Description |
|---|---|---|
| # 1 | 7-682-548-09 | SCREW +BVTT 3X8 (S) |
| # 2 | 7-682-547-04 | SCREW +BVTT 3X6 (S) |
| # 3 | 7-682-547-09 | SCREW +B 3X6 |
| # 4 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |
| # 5 | 7-621-775-10 | SCREW +B 2.6X4 |
| # 6 | 7-685-134-19 | SCREW +BTP 2.6X8 TYPE2 N-S |
| # 7 | 7-621-255-15 | SCREW +P 2X3 |

D: GERMAN F: FRENCH NL: DUTCH S: SWEDISH
E: SPANISH I: ITALIAN P: PORTUGUESE

English
91C1996-1
Printed in Japan
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**Sony Corporation**
**Audio Group**

**Published by Customer Relations and Service Group**